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PART I

ORGANIZATIONAL HISTORY OF THE BUREAU OF MEDICINE AND SURGERY

CHAPTER I

EARLY ORGANIZATIONAL PROPOSALS

The Bureau of Medicine and Surgery, like most government agencies, has, during the last twenty years, specifically during World War II, witnessed many important developments in its structural organization and administrative functions. The basic organization and functions of the bureau have not, however, been changed during this period. As the principal administrative agency of the Medical Department, "BuMed", as the Bureau of Medicine and Surgery has been known in naval parlance, is still responsible for the health of the Navy. Its duties relating to medical services and its technical control over Medical Department activities are fundamentally the same as they were two decades ago. But a rapidly expanding Navy, technological advances, and a consciousness of the need for a closely integrated and coordinated Medical Department for the purpose of a successful prosecution of the war led to numerous studies, revisions, and reorganizations of the structural form of the bureau. Along with structural reorganizations went redefinitions of functions and functional areas.

Reorganization proposals and changes have, in several cases, been initiated by higher authority, and have at all times been reviewed and interpreted by the bureau in the light of what is best for the mission of the Medical Department. One such proposal, dealing with a general reorganization of the Navy Department,

reached the desk of the Surgeon General in the summer of 1921.[1] There were three points in this proposal with which the Surgeon General took issue. The first, allocation of BuMed funds by a Navy Department budget committee, was easily disposed of by pointing out that the segregation of the bureau's funds was by statutory enactment. The second subject of some importance dealt with the establishment of an insular desk in the Office of Naval Operations over which all mail to insular possessions would pass. The Surgeon General doubted the wisdom of this procedure on the grounds that communications of BuMed were "largely technical or urgent and in many instances the information desired is advisory along strictly sanitary or medical lines." The third point suggested the use of line officers in the Office of Naval Operations as inspectors of Medical Department facilities. The Surgeon General also viewed this suggestion in an unfavorable light, and pointed out that there was a division in BuMed charged with the responsibilities of inspection and that the Surgeon General, himself, made tours of inspection from time to time.

There is no evidence that the proposals of the Navy Department Reorganization Board of 1921 left permanent marks on BuMed's administrative functions or structural organization. But awareness of the need for improvement in management procedures,

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1. Surgeon General to Recorder, Navy Department Reorganization Board, 2nd End., 8 Aug. 1921, (No file number).

administrative control and direction, command relationships, and coordination of functions to meet the exigencies of an expanding Navy and the needs of war led to further studies of BuMed's functions and structural organization.

A study of this nature, but primarily for reasons of economy, was initiated by the Surgeon General on 7 June 1933. On that date he established a board within the bureau to recommend "such changes, concentrations, modifications, or eliminations in procedure and methods as will tend to increase the efficiency, minimize work, and reduce personnel in the Bureau."[2] The board, consisting of the Assistant to Bureau, a captain of the Medical Corps, and the Chief Clerk, submitted its report three days later.[3] It recommended that there be no further cut in civilian clerical personnel. There were, at that time, 47 civilian clerical positions in the bureau. In April of that same year there had been 56 such positions, but acting on a SecNav directive to effect a 10 percent reduction in clerical civilian personnel, that number had been reduced to 47. The board did recommend, however, that one stenographer and a typist be discharged, and that several transfers of both civilian and military personnel be made between the several divisions. One division, the Research Division, was considered for a transfer of its functions and personnel to the Naval Medical School. No other

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2. Chief BuMed to Assistant Chief BuMed, 7 June 1933. (No file number).

3. Organization Board to Chief BuMed, 10 June 1933. (No file number.)

changes of any great importance were mentioned in the board's report. The personnel recommendations were doubtless acted upon, and the Research Division continued to operate within the structure of the bureau for a time. Later it was transferred to the Medical School, only to be reestablished in BuMed.

During the next ten years there were two other significant proposals for reorganization. One of these, in the form of legislative enactment for a reorganization of the entire Navy, was the subject of debate and discussion in Congress and the Navy Department. This was the proposed Navy Organic Act of 1939, or the Vinson Bill.[4] In June of that year the measure was sent, for purposes of comment, to the Secretary of Navy, to the Commander-in-Chief U.S. Fleet, to the chiefs of bureaus and to several admirals with wide experience in matters of naval administration. The bill called for far-reaching changes in administration of the Naval Establishment. It proposed to abolish the 9 bureaus and their chiefs and substitute therefor 26 heads of divisions, all of whom would hold the same rank as the chiefs of bureaus. The divisions were to function through four offices, the Medical Department to become the Division of Health in the Office of the Secretary, with the Surgeon General heading up the division. The division was to be composed of three sections: (1) Naval Hospitals, Dispensaries and Schools, (2) Medical Depots, (3) Medical and Dental Personnel. There were 15

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4. H. R. Hearings...On...Naval Establishment, 1939-1940, pp. 2335-2349.

sections in the bill, and in clear and succinct language, the Surgeon General expressed the views of BuMed on those sections which had a bearing on the Medical Department. Aside from doubting the wisdom of establishing 26 divisions, he opposed the provisions in the bill which made it possible to place other than a medical officer at the head of the Division of Health. The bill provided that commissioned officers of the Line, Supply Corps, Construction Corps, and Civil Engineer Corps were to be on a "single list". Since heads of divisions could be chosen from the single list, and since medical officers were not on the list, it would then be possible for an officer without medical training to become head of the Division of Health. Furthermore, according to the bill, medical officers would not be promoted above the rank of commander. That, too, was undesirable. "Should this bill become law," the Surgeon General stated, "with its restrictions and limitations on the authority of the medical officers within their own field, and with denial of promotion on a parity with other naval officers and all other incentive to progress there can be not the slightest doubt as to loss of morale, efficiency, and professional standing."[5]

The Secretary of the Navy, like many naval officers, was not cordial to the idea of reorganization as was provided by the Vinson Bill.[6] He agreed that some changes should be made in the

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5. Ibid.

6. Ibid.

organization of the Naval Establishment, but that the changes could be effected without disturbing the existing system: "This organization has stood the test of time, and the test of three wars, and it would be a mistake at this particular time to change it even if it were not entirely satisfactory."

The Vinson Bill did not get on the statue books, but a widespread belief in the need for reorganization of some of the departments, offices, and bureaus made itself felt in the early months of 1942. At that time, functional and organizational studies were being made of some of the Navy Department bureaus. One of the most important of these for Bureau of Medicine and Surgery was undertaken by the management engineering firm of Booz, Fry, Allen, and Hamilton of Chicago. On 26 February 1942, a contract was executed with this firm for the purpose of conducting an administrative survey of Bureau of Navigation and Bureau of Medicine and Surgery, and for consultative services relating to the Office of Procurement and Materials and to the offices of Secretary of the Navy, Under Secretary of the Navy, Assistant Secretary of the Navy, and Assistant Secretary of the Navy for Air.[7] The estimated cost of the survey was $50,000, of which $7,500 was for BuMed.

In April, when the Booz firm began its survey, there were

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7. JAG, MFL: br, EN/A3-1 (411006) S, 12 Mar. 1942.

12 divisions in the bureau.[8] When the survey was completed in July, the firm recommended the reduction of the 13 major functions and divisions of the bureau to 9.[9] Two of these, the Personnel Division and the Physical Qualifications and Medical Records Division, were recommended for transfer to BuPers. The U. S. Naval Medical Supply Depot, Brooklyn, had been given separate consideration by the management engineers, and the Red Cross Naval Activities Division had been omitted entirely in the Booz report. In brief, it was recommended that BuMed be reorganized into 4 divisions and an Inspectors-General Unit. The divisions were: (1) Planning and Control, (2) Professional, (3) Accounting, (4) Administration.

The report did not deal entirely with matters of structural organization. It also included a number of general and specific recommendations on matters of a functional nature. Some of the general recommendations were basic while others were too general or hardly to the point. Of 84 specific recommendations, 29 were in effect by October. The remaining 55 were considered impractical or were in the process of being put into effect.[10]

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8. (1) Physical Qualifications and Medical Records, (2) Personnel, (3) Dentistry, (4) Aviation Medicine, (5) Preventive Medicine, (6) Planning, (7) Research, (8) Inspection, (9) Publication, (10) Material and Finance, (11) Administrative, (12) Red Cross Naval Activities.

9. Booz Surveys, Survey of Administration, Bureau of Medicine, Navy Department, 25 July 1942.

10. BuMed-C-LET, A3-4/EN (073-40), 14 Oct. 1942.

Improvements in organization and administrative management were brought about by the Booz survey, and dollar savings as a result of the adoption of the firm's recommendations amounted to several thousand. On 30 April 1943, the Surgeon General could report that approximately $100,000 had been saved by adopting a Booz proposal of using the services of 11 eminent physicians as advisors to BuMed. To this saving could be added $43,000 by the wider use of form letters, $3,440 by the elimination of unnecessary examination cards in the Aviation Medicine Division, and $2,100 by the consolidation of statistical work.[11] These were not the only savings, and Chief BuMed pointed out to SecNav that, "any request to evaluate the result of these studies in terms of dollars and cents is to betray the opinion that their true value and significance can be gauged in terms of money. This is emphatically not the case".

In recognition of the importance of management problems, an office of Special Assistant to the Surgeon General was created in October 1942 to handle all management problems in the Medical Department and in BuMed.[12] This office was soon to prove itself of great value. On 27 March 1943, the Special Assistant submitted a twelve-page memorandum to the Surgeon General proposing a functional reorganization of BuMed.[13] The Special Assistant had studied the

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11. BuMed-E-AIJ, A3-4/EN (073-40), 3 Apr. 1943.

12. BuMed-S-CRM, A3-4/EN (073-40), 21 Oct. 1942.

13. BuMed-E-AIJ, A3-4/EN (073-40), 27 Mar. 1943.

Booz report, and many of his recommendations were made in the light of that report. His proposals, in brief, provided for 5 activities, with a director at the head of each. These were: (1) Director of Planning Activities, (2) Director of Professional Activities, (3) Director of Personnel Activities, (4) Director of Supply Activities, and (5) Director of Administrative Activities.[14] He also suggested that no division be reduced to the level of a branch, unit or section; that all divisions be grouped functionally according to the 5 activities; that there be a retention of all functions and divisions within the bureau; and that 3 sections be elevated to the level of divisions.

This memorandum is of sufficient importance to be presented in detail, for it caused considerable comment in the bureau, and some of its recommendations were put into effect. In a sense, it was a sequel to the Booz report. Neither the Booz report nor the Special Assistant's memorandum was adopted in toto, but they both provided foundations upon which a sound administrative structure could be erected.

It was the belief of the Special Assistant that the Planning Division, as it was then organized, included a number of functions that were not strictly of a planning nature. Since the Planning Division had some measure of cognizance of procurement and supply problems as well as of architecture plans and designs,

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14. Ibid.

and since there was some confusion as to the meaning of "planning" in the military sense, the Special Assistant proposed that the functions having to do with specific procurement and supply problems be removed from the Planning Division. The remaining functions of the division, according to the memorandum, were to be divided between two divisions, a War Plans Division and a Design and Construction Division, both of which would be assigned to 5 sections, whose respective functions would be concerned with current plans, future plans, military intelligence, secret and confidential files, and internal security. The work of the Design and Construction Division would be divided among 4 sections: Facilities Utilization, Ship Facilities, Shore Facilities, and Special Equipment.

The Special Assistant was particularly strong in his recommendations for a Director of Professional Activities: "At present there is no one single spot in the Bureau where the professional aspects of medicine and surgery, and all their related activities, are properly centered - and yet, with all due respect to other divisions, branches and sections in the Bureau, it is perhaps no exaggeration to say that these professional aspects are basic in the justification of a central executive bureau in the Medical Department of the Navy." The functions of this activity, as outlined by the Special Assistant, were to be (a) research, (b) standards, (c) inspections, and (d) information and advice, which would include publications. The suggested organizational structure for the activity would consist of (a) Medical Practice Division,

which would be divided into 4 branches: Medicine, Surgery, Neuropsychiatry, Administrative; (b) Dentistry Division; (c) Aviation Medicine Division; (d) Preventive Medicine Division; (e) Research Division; and (f) Publications Division.[15] As a coordinating body, it was further recommended that there be a Professional Committee, with the Director of Professional Activities as chairman and the heads of the divisions as members of the committee. This committee was to meet weekly or bi-weekly "for purpose of advice, information, reports, and general planning of professional activities". The proposed reorganization also called for the elimination of the Inspections Division as a division, its functions to be absorbed into the several divisions of Professional Activities.

The Special Assistant took exception to the Booz recommendation of transferring the Personnel Division and the Physical Qualifications and Medical Records Division to BuPers. He felt that these two divisions performed functions which properly belonged in BuMed, and he therefore recommended that both divisions be established under the Director of Personnel Activities.

With a view to improving the handling of materiel

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15. On 13 Feb. 1943, there were twelve divisions in BuMed, one of which, Red Cross Naval Activities, was not referred to as a division, yet functioned as one. The divisions were: (1) Physical Qualifications and Medical Records, (2) Personnel, (3) Dental, (4) Aviation Medicine, (5) Preventive Medicine, (6) Planning, (7) Research, (8) Inspections, (9) Publications, (10) Finance, (11) Administrative. (Memo BuMed-E-AIJ, 13 Feb. 1943.)

procurement and supplies, the Special Assistant suggested the establishment of a Supply Activity. The director of this activity would have cognizance of all matters relating to medical supplies, including resources, requirements, priorities, allocations, specifications, conservation, procurement, purchasing, etc. To implement the functions of this activity, it was suggested that there be a Supply Division at Brooklyn and a Procurement Coordination Division in Washington. The Supply Division would in effect be the same as the U. S. Medical Supply Depot at Brooklyn, while the Procurement Coordination Division would serve to correlate supply activities both within the Medical Department and with similar activities of government and private agencies in Washington.

The Director of Administrative Activities, the fifth activity recommended, was to have cognizance of the functions then lodged in the Administration Division, the Finance Division, and the Red Cross Naval Activities Division. Since the chiefs of each of these divisions worked in close cooperation with the Assistant to the Bureau, the Special Assistant felt that the title and functions of Director of Administrative Activities should be added to that of the Assistant to the Bureau.

There were two final suggestions made by the Special Assistant, each of which had a bearing on the smooth operation of the bureau. One of these related to the signing and handling of correspondence. It was felt that the organizational structure as

suggested would lend itself "admirably to the suggested practice of having the directors of activities sign, by direction, all routine correspondence within the cognizance of their respective activities". The other final suggestion was concerned with providing division chiefs with "the privilege of discussing matters of importance or policy with the Chief of the Bureau and the Assistant to the Bureau".

The Special Assistant's proposed functional reorganization of the bureau met with considerable opposition from the chiefs of the divisions.[16] One chief felt that division functions could not be so "clearly cut and defined" as they were in the memorandum. This stand was taken in the belief that a professional enterprise, such as BuMed, did not lend itself to delimitation of functions in activities and divisions: "The functions of the various divisions are so closely correlated and integrated that the functions of one will of necessity at times flow...into the back yard of the other cognizant Division." He also doubted the practicability of the Professional Committee. Such committee, he stated, might resolve itself into a body which could be dominated by the Director of Professional Activities, whereas division heads "would prefer discussing their problems in privacy with the Director rather than in a group". Nor did this division chief

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16. BuMed-I/bkj, A3-4/EN (073-40), 2 Apr. 1943; BuMed-Ca-CJS, A3-4/EN (073-40), 5 Apr. 1943; BuMed-C-LET, A3-4/EN (073-40), 5 Apr. 1943.

believe that the Personnel Division and Physical Qualifications and Medical Records Division should be placed under the Director of Personnel Activities. The functions of the two divisions were not deemed closely enough related to be set up in a single activity. This latter was the point of view of other division chiefs.[17] The Personnel Division was concerned with procurement, training, and duty assignment of Medical Department personnel only. The Physical Qualifications and Medical Records Division's functions dealt with all uniformed naval personnel. It was for this reason that certain division chiefs took the position that the two divisions did not logically belong side by side in Personnel Activities.

It is not necessary at this point to present all the other objections raised by division chiefs to the proposed reorganization scheme of the Special Assistant, nor should the impression be left that these administrative officers presented a solid front against all proposals for reorganization. Almost without exception they agreed that the bureau was in need of functional and structural readjustments, but they counseled against hurried or radical changes. Nor did all the criticisms come from officer personnel.

The spokesmen for the civilian employees found reasons for questioning the Special Assistant's memorandum.[18] The Chief

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17. BuMed-R:JLA, 5 Apr. 1943; BuMed-F-OHR, 14 Apr. 1943.

18. BuMed-C-LET, A3-4/EN (073-40), 5 Apr. 1943.

Clerk of BuMed supported civilian employee opposition to the Special Assistant's proposal on personnel management. Although the memorandum contained no specific reference to civilian employees, this group seemed to feel that, since there was no provision for "a head civilian to whom the employees may look for assistance and understanding...", such employees would be controlled by a naval officer. They believed that such a relationship would be damaging to morale, that a civilian administrative head was just as important "as the direction and control of strictly medical or Naval matters by medical and Naval officers". It is also interesting to note that the Chief Clerk could envisage no improvement in the functions or organization of the bureau as suggested in the Special Assistant's memorandum.

It will be seen that, despite personal convictions, apathy, and an understandable human resistance to change, the several studies and recommendations in structural and functional reorganization stimulated interest in administration problems and resulted in important changes in organizational machinery and in clearer concepts of functional operations. The Booz survey and the Special Assistant's memorandum, the two most important stimuli of this nature, provided patterns. With the patterns before them, responsible bureau authorities began the task of revamping the bureau to meet the needs of the Medical Department. A final and complete remodeling was not achieved. Human institutions are dynamic. After two years of intensive work in administrative

problems, the Surgeon General could write: "It is my belief that we should streamline our organization as much as possible, keeping in mind, of course, efficiency of operation."[19]

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19. BuMed A3-1/E, 17 May 1945.

CHAPTER II

ORGANIZATIONAL DEVELOPMENT, 1941 - 1945

I. Functional Scope

The Bureau of Medicine and Surgery was established by the Act of 31 August 1842, providing that the functions of the Navy Department be distributed among five bureaus. Prior to the establishment of BuMed, all naval activities were under the direction of the Navy Department created by Act of Congress on 3 April 1798. The principal administrative functions of the Medical Department are now performed by BuMed under the authority of SecNav and bureau orders are considered as emananting from him. BuMed is charged with the management and control of all naval medical facilities and activities, such as hospitals, dispensaries, medical supplies, medical laboratories, Naval Medical Center, and all technical schools established for the training of personnel in the Medical Corps, Dental Corps, Nurse Corps, and Hospital Corps.[1] Working in close collaboration with

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1. As of 7 June 1945, BuMed cognizance of Medical Department activities extended to: (1) Inspectors, USN Medical Department Activities, (2) Inspector, USN Dental Activities, (3) District Medical Officers, (4) National Naval Medical Center, (5) U. S. Naval Hospitals, (6) U. S. Naval Convalescent Hospitals, (7) U. S. Naval Base Hospitals, (8) U. S. Special Augmented Hospitals, (9) U. S. Naval Receiving Hospital, (10) U. S. Naval Military Government Hospitals, (11) U. S. Naval Dispensaries, (12) U. S. Navy Outpatient Clinic (Oklahoma City), (13) U. S. Navy Medical Units (in non-naval hospitals), (14) Attending Physician, U. S. Capitol, (15) U. S. Naval Medical Supply Depots, (16) U. S. Naval Medical Supply Storehouses, (17) U. S. Naval Medical Research Institute, (18) U. S. Naval Medical School, (19) U. S. Naval Dental School, (20) Hospital Corps Schools, (21) U. S. Naval Photoflurographic Units, (22) U. S. Naval Field Medical Photographic Units, (23) U. S. Naval Medical Research Units, (24) U. S. Naval Mobile Dental Units, (25) U. S. Naval Medical Optical Units, (26) Hospital Corps Rehabilitation Training School, (27) U. S. Navy Medical Etomology Control Units, (28) Corps Evacuation Hospital, (29) U. S. Navy Unit, Special Division CWS-War Department. (BuMed-E-MGT, N1/EN10, 7 June 1945.)

BuPers and the Fleet, BuMed procures and assigns Medical Department personnel. Everything which may affect the health of the Navy comes under the cognizance of the bureau.

Prior to World War II the available number of professional and semi-professional members of the Medical Department totaled about 5,000 persons.[2] To this number could be added several hundred civilian employees. At the conclusion of World War II these figures had increased approximately to 31,000 and 13,500 respectively.[3]

Thousands of ships and stations throughout the world profited from the services of the "Medico" and his assistants, and to keep the Navy's medical machinery running smoothly, BuMed found it necessary to expand its own personnel and to keep its administrative organization up to date. Six months before Pearl Harbor the force in BuMed consisted of 75 officers, 32 enlisted men, and 225 civilians, or a total of 362.[4] On 15 May 1945, these numbers had increased to 283 officers, 321 enlisted men, and 584 civilians, or an over-all total of 1188.[5] In June 1941, BuMed staff was distributed among

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2. Booz surveys, Survey of Administration, Bureau of Medicine, Navy Department, 25 July 1945, p. 3.

3. Figures in the text are exclusive of enlisted personnel. The following figures, with noted exceptions, are for 30 June 1945 and include both regulars and reserves: (1) 13631 (MC); (2) 6378 (DC); (3) 788 (H(S)); (4) 390 (H(W)); (5) 10,914 (NC) (30 Sept. 1945); (6) 3,273 (HC); 130,252 enlisted. (These figures are based on records in personnel and dental divisions.)

4. Annual Report, Chief BuMed, Fiscal Year 1942.

5. BuMed, A3-1/E, 15 May 1945.

11 divisions. By October 1945, there were 22 principal units within the bureau charged with the administration of the Medical Department. These included boards, offices and divisions.[6]

II. Office of the Surgeon General

At the top of the administrative structure of BuMed is the Office of the Surgeon General consisting of the Surgeon General (Chief BuMed) and such aides and secretarial assistance as he may need in directing the functions of the Bureau of Medicine and Surgery and the Medical Department. As Chief of the Bureau, the Surgeon General is responsible to the Secretary of the Navy for all matters affecting BuMed and is the direct agent of the Chief of Naval Operations in regard to all matters within the Bureau that affect the preparation and readiness of the naval forces for war. He is appointed from the list of the surgeons of the Navy, and formerly held the relative rank of commodore. He now holds the permanent rank of rear admiral.[7] On 2 February 1944, he was nominated by the President for the rank of vice admiral, for temporary

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6. (1) Office of the Surgeon General, (2) Office of Ass't. to Bureau, (3) Office of Aide to Surgeon General, (4) Office of Quarantine Liaison, (5) Publications Division, (6) Civilian Ass't. to Surgeon General, (7) Ass't. for Dentistry, (8) Administration Division, (9) Finance Division, (10) Medical History Board, (11) Inspections Division, (12) Ass't. to Surgeon General for Inspections, (13) Personnel Division, (14 Medical Statistics Division, (15) Planning Division, (16) Physical Qualifications and Medical Records Division, (17) Materiel Division, (18) Aviation Medicine Division, (19) Professional Division, (20) Research Division, (21) Preventive Medicine Division, (22) Post-War Planning Board.

7. Secs. 426, 1471, 1473, Rev. Stat.; 30 Stat., 1005; 16 Stat. 537; 40 Stat. 717.

service, to rank from 1 February of the same year. The nomination was confirmed by the Senate on 10 February 1944.[8] His term of office is for four years,[9] and he may be re-appointed. The present Chief of the Bureau, Vice Adm. Ross T McIntire, has held the position since 1 December 1938.[10]

The principal functions of the Office of Chief BuMed have not undergone any notable changes since the outbreak of World War II, nor has the administrative organization of the office been subjected to important readjustments. But the tremendous burdens imposed by war have called for exceptional qualities of leadership and stamina. Additional duties, such as speaking engagements, answering letters of cranks, defending the Medical Department against unwarranted attacks, etc., without losing sight of the mission of the Medical Department have been sufficient to tax the abilities and capacities of any man.[11] And by no means the least of his additional duties were those arising out of his assignment as physician to the White House. To all this must be added the time expended by the Surgeon General in attendance at, and

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8. Memo BuMed EN10/001 (021), 3, 12 Feb. 1944.

9. Sec 421, Rev. Stat.

10. BuMed-EN/10/001(014), 23 Jan. 1939.

11. A study of the Surgeon General's files will bear the writer out in this statement.

participation in the deliberations of, private and extra-legal boards and committees.

Associated closely with the Office of the Surgeon General are the Office of Assistant to BuMed, the Office of the Assistant to Surgeon General for Inspections, and the Office of the Civilian Assistant to the Surgeon General. As administrative agents, these officials of BuMed relieve Chief BuMed of many routine and onerous duties. It is not to be understood, however, that other members of the Bureau staff work independently of the Surgeon General. Heads of all divisions, boards, and committees act as advisors to Chief of BuMed. The principal distinction of the nature of the work of the two groups is one of functional level rather than of importance.

Early in the war 8 civilian members of the medical profession were appointed as honorary consultants to BuMed at the compensation of one dollar per year.[12] The use of the services of these persons was in line with suggestions made by the Booz report. By May 1943, the number of honorary consultants had increased to 11, and Chief BuMed reported that the physicians had been of inestimable value.[13] Important decisions on such matters as use and distribution of civilian and service medical men, training and schools, and

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12. Annual Report, Ch BuMed, Fiscal Year 1942.

13. BuMed-E-AIJ, A3-4/EN (073-40) 30 Apr. 1943.

questions of general medical practice and techniques were often made and acted upon in the light of the advice of these consultants.[14]

The relationship between BuMed and the consultants worked smoothly and well, except for an early misunderstanding on financial reimbursement for travel and subsistence. The appointment of honorary consultants at one dollar per year is authorized by law, but where such individuals are carried on the pay roll of a government agency it is not possible to reimburse them for travel and subsistence to and from the Bureau in Washington.[15] Reimbursement of this nature for honorary consultants can be had only where they are appointed on an honorary contractual basis specifying that the appointment is without compensation. Since BuMed's honorary consultants had originally been appointed as dollar-a-year men, it became necessary to reappoint them as consultants without compensation.

It will serve no real purpose in this study of BuMed organization and functions to present in great detail the manifold duties and accomplishments of Chief BuMed. As head of the Bureau, he is responsible for all its functions and is, therefore, a legal participant in all activities of the Bureau. He can also be thought of as BuMed's principal liaison officer. It was for this

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14. BuMed-QR/OM (034-41).

15. Public No. 667, 76th Congress; JAG:P: WMcL:cm 7167, 1 Feb. 1944.

latter reason that in February 1944 an office was provided in the Main Navy building for the Surgeon General.[16] This made him more available for liaison purposes with non-medical activities of the Navy Department. His relationship to official boards and committees are discussed elsewhere in this present work.

III. Office of the Assistant to the Bureau

The Office of the Assistant to BuMed, established by law on 16 July 1862,[17] stands in close functional relationship to the Office of the Chief of the Bureau. A surgeon, assistant surgeon, or passed assistant surgeon, may be assigned to the office; but the act authorizing an Assistant to the Bureau did not contain any provision for the assistant to perform the duties of Chief BuMed in the latter's absence. This was an awkward and unsatisfactory situation, and was corrected by law on 23 July 1868.[18] This act provided that in case of the death, resignation, absence, or sickness of the chief of any bureau whose appointment was not vested in the head of the department, the assistant bureau chief was to perform the duties of the chief until a successor be appointed or such absence or sickness should cease.

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16. BuMed-E-BHL, A3-4/EN (073-40), 7 Mar. 1944.

17. Sec 1375, Rev. Stat.

18. Sec 178, Rev. Stat.

The act establishing the Assistant to the Bureau contained no provision as to rank. At the time of the outbreak of World War II he held the rank of captain. This was not entirely satisfactory from the point of view of command relationships, and for this reason the incumbent was appointed rear admiral on 21 September 1942.[19] The rank was to be temporary and would be held by the individual only while assigned to the Office of Assistant to BuMed.

Temporary succession to the Office of Chief BuMed also devolved upon the Chief Clerk during the absence of the Surgeon General and the Assistant.[20] This arrangement was discontinued in 1942. An act approved on 3 February of that year authorized SecNav to designate heads of the major divisions of bureaus and offices of the Navy Department to perform the duties of the chiefs of the bureaus in their absence and in the absence of the assistants to the bureaus.[21] BuMed recommended that the heads of the divisions of Inspections, Personnel, and Planning serve in this order of succession when such conditions existed in the Bureau. The recommendation was approved by SecNav.[22]

The removal of the Chief Clerk from the duty of temporary

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19. Annual Report, Ch BuMed, Fiscal Year 1943; Chief Clerk's Journal, entry for 21 Sept. 1942.

20. Sec 178, Rev. Stat.

21. 56 Stat., pp. 47-48.

22. Annual Report, Ch. BuMed, Fiscal Year 1942.

succession to the Office of Chief BuMed and placing such function in the heads of divisions was a logical development. Military responsiblities can best be fixed where such responsiblities are in the hands of commissioned personnel.

A further step towards coordinating and integrating the work of BuMed occurred on 5 December 1944, when a Bureau policy was established for semi-weekly conferences of division chiefs in the Office of the Assistant to the Bureau. These conferences were directed to be held on Monday and Thursday.[23] Division chiefs had been allowed access to the Office of the Assistant, but, by setting up a program of mandatory conferences, heads of all divisions were provided a means for discussing problems of mutual interest and were thus enabled to keep abreast of developments in all the divisions.

One other important function of this office warrants attention. Early in 1944, after a little hesitancy on account of costs and the pressure of war-time duties, BuMed decided to revise the Medical Department Manual. The manual had last been revised in 1939, and since that time many important changes had taken place in the policies and activities of the Medical Department which were not adequately reflected in the manual. A project was therefore gotten under way for a complete revision of the publication.

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23. BuMed-E-LG, EN 10/A19, 5 Dec. 1944.

Chief of the Administration Division was called upon to estimate the cost of such a project and to recommend competent personnel for the task. The cost was estimated at $51,000, and it was suggested that one officer with editorial and writing experience and a stenographer be assigned to the project. The officer would be responsible for the editorial work, while division chiefs were to appoint one officer to represent the respective divisions in contacts between the editor and the divisions. The assistant Chief Bumed was to act as Chairman, Committee on Revision of Manual.

The plan as outlined by Chief of the Administration Division took shape, and in a few months the project was well established. It was felt that the job would be completed within four to six months; but unavoidable delays and expansion of the scope of the project necessitated a considerably longer period for the completion of the project. Tardy actions on the part of bureaus and offices, especially the JAG's office, which were required to pass on the revisions, were responsible to a great extent for these delays. As the work progressed, it was found necessary to increase the personnel. One additional officer, an enlisted man, and a civilian typist were assigned to the project. Assistance was also obtained from the Library of Congress, which provided one of its employees to help in the indexing of the revised manual.[24]

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24. Bumed-BHL, A3-4/EN (073-40), 5 June 1944; Bumed-E-LG, A2-2/EN10/ (053), 19 June 1944.

In July 1945, an advanced chapter of the manual was issued under the title "Statistical Reporting and Diagnostic Nomenclature", NAVMED-351 (Rev. 1945).[25] This was a product of the editorial staff of the Manual Revision project, and had been worked out in collaboration with appropriate BuMed divisions, as well as with the Army, the Bureau of the Census, the Public Health Service, the Veterans' Administration.

IV. Chief Clerk, Civilian Assistant and Special Assistant to the Surgeon General

These three offices--Chief Clerk, Civilian Assistant, and Special Assistant to the Surgeon General--are dealt with here in a single section because of their peculiarly close relationships in functions and historical development.

The position of Chief Clerk was authorized by law in 1853.[26] His duties, aside from Acting Chief of BuMed in the absence of Chief and Assistant Chief, extended to the supervision of all matters relating to the civilian employees of the Bureau, and prior to World War II he was head of the Administrative Division. It has been seen that his function of Acting Chief of the Bureau was terminated in 1942. His civilian supervisory function was not appreciably disturbed until March 1943, when steps were taken to reorganize the

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25. BuMed-E-LG, A3-4/EN (073-40), 14 July 1945.

26. 10 Stat. 211; 5 Stat. 525.

administration of BuMed civilian personnel. These employees were, for administration and management purposes, placed in the Personnel Division. It has been noted above that considerable opposition to this arrangement was offered by the Chief Clerk, but there can be little doubt that the move was based on sound principles of management. Under this system the functions of the civilian employees could be integrated more readily with over-all personnel management.[27]

The Office of Chief Clerk no longer existed, and on 10 June 1943, the incumbent was given the title of Civilian Assistant to the Chief of Bureau,[28] and the Assistant Chief Clerk was placed in charge of the remainder of the Administrative Division. The Civilian Assistant was to act as consultant and advisor to the Chief and Assistant Chief of Bureau, to the heads of Bureau divisions, and to commanding officers of Medical Department activities. In general, he was to study and comment on new and proposed legislation, review proposals for changes in Bureau organization, and study and recommend matters relating to the administration of the Medical Department.

The appointment of the Civilian Assistant as advisor and consultant in administrative and management problems was proved to

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27. See section of this study on Administrative Division, where civilian personnel functions are discussed.

28. BuMed Memo, A3-4/EN (073-40), 10 June 1943.

be functionally unsound, for there was already in the Bureau a Special Assistant to the Surgeon General who served in this capacity. This specialist had been brought into the Bureau in October 1942, and since his duties and those of the Civilian Assistant overlapped, it became necessary to clarify the responsibilities and duties of each.[29] The Special Assistant suggested that one of several steps be taken to solve this confused functional and organizational problem: (1) subordinate the Civilian Assistant to the Office of the Special Assistant; (2) create a new Administration Division; (3) abolish the Office of Special Assistant; or (4) prescribe more clear-cut division of duties between the Special Assistant and the Civilian Assistant.[30]

The Special Assistant's observations were acted upon. The Administrative Division was reorganized and enlarged as the "Administration Division" and placed under the direction of the Special Assistant.[31] On 30 September 1944, the Surgeon General designated the Civilian Assistant as the Bureau's legislative representative.[32] The Civilian Assistant, in this capacity, is responsible to Chief BuMed for all information on legislative matters that pertain to the Medical Department.

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29. BuMed-AIJ, A9-1/EN10 (073), 2 Aug. 1943.

30. BuMed Memo, A3-4/EN (073-40), 14 June 1943.

31. Ibid.

32. S. G. Memo, 30 Sept. 1944. (No file number.)

A few further remarks relative to the Office of Special Assistant are pertinent. The office is not one to which a single individual may necessarily be assigned for permanent duty. It often happens that officers are called into the Bureau from the field to serve as special assistants to the Surgeon General for limited periods of time. The Special Assistant mentioned above was assigned management engineering duties. As Chief of the Administration Division, his management functions were much the same as they had been as Special Assistant. The change that was brought about was one of organizational structure rather than one of functions. In June 1945, after nearly three years of service, this individual was permitted to return to civilian life upon his own request. Since then he has continued to serve as management consultant to the Bureau.

V. DIVISIONS

A. Personnel Division

At the beginning of World War II, BuMed found itself with unwieldy and outdated machinery for dealing with the vast and complicated problems of personnel management. The direction of such problems rested in the hands of the Chief Clerk, who was responsible for civilian personnel, and in the hands of the Chief of the Personnel Division, who had administrative cognizance of military personnel. Each was not only responsible for his respective personnel in BuMed, but also for the Medical Department as a whole. Obviously this quadripartite division of functions could hardly be

expected to result in anything but confusion, and in general the personnel management situation throughout the Navy Department was in need of reogranization.

On 9 December 1942, SecNav instructed all bureaus, offices, and boards of the Department to consolidate all military and civilian personnel functions into one organizational unit within each of the several bureaus, offices and boards.[33] Immediate steps were taken to comply with the instructions. The Special Assistant was called upon to study the personnel set-up in the Bureau and to make recommendations thereon. The advice of others was sought, and on 31 December, Chief BuMed could report that all personnel functions of the Bureau, as well as the Medical Department, were being consolidated and placed under the cognizance of the Personnel Division.[34] The plan provided not only for the transferral of all civilian personnel functions to the Personnel Division, but also all such functions relating to military personnel.[35] And despite the earlier objection of the Chief Clerk to placing civilian personnel under the direction of a naval officer, a lieutenant was assigned to the Civilian Branch of the reorganized Personnel Division.

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33. SecNav ltr., SO 12151017, 9 Dec. 1942.

34. C-LET, A3-4/EN (073-40), 31 Dec. 1942.

35. C-LET, A3-4/EN (073-40), 11 Feb. 1943.

The structure and functions of the reorganized division were not completed until February and March of 1943.[36] The division, as then established, was composed of two principal parts, the Military Branch and the Civilian Branch. The Military Branch, divided functionally into a Medical Corps Section, a Dental Corps Section, a Nurse Corps Section, a Hospital Corps Section, a Bureau Military Section, and a Correspondence Course Section, was to have cognizance of all matters pertaining to complements, recruitment, appointment, promotion, training, etc., and of transfer of all officer and enlisted personnel coming within the cognizance of BuMed and the Medical Department.[37] The Civilian Branch, divided into a Field Civilian Section and a Bureau Civilian Section, was to have cognizance of all matters pertaining to procurement classification, grievances, training, work-load, complements, etc.

The reorganization of personnel functions did not, however, bring about a desired end. It was soon discovered that the scheme broke down insofar as civilian personnel management was concerned. The Personnel Division operated, primarily, with a view to over-all Medical Department needs in terms of corps personnel. The day-by-day civilian problems and needs of activities belonged in the category of administrative management. And to a great extent this

36. BuMed-E-AIJ, A3-4/EN (073-40), 6 Feb. 1943; Annual Report, Ch BuMed, Fiscal Year, 1943.

37. For awhile dental personnel functions resided in the Dentistry Division. See section of this paper dealing with the Dentistry Division.

was also the case regarding Bureau military personnel. Ways and means were therefore taken to correct this situation by reorganizing the Administrative Division and establishing therein sections for all civilian personnel and for BuMed military personnel.[38] This readjustment was in accordance with the tenor of Secretary of the Navy's letter on personnel consolidation, since the military and civilian personnel functions of the Bureau itself were consolidated under one division.

The Personnel Division was still in need of further modification and reorganization. The importance of complement planning and control, from the standpoint of centralized functions of liaison with BuMed divisions and BuPers, was recognized by the establishment, in October 1944, of a Complement Planning and Control Section in the Division.[39]

This modification was followed by a management and organization survey of military personnel functions of the Bureau. It was found that two other divisions, Preventive Medicine and Professional, exercised functions which rightly belonged in the Personnel Division, such as the function of establishing qualification standards for medical, H(S), and H(W) officers which were lodged in the Professional Division, and certain training programs then under

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38. See section dealing with Administration Division.

39. BuMed-E-LG, A3-4/EN (073-40), 14 Oct. 1944.

the direction of the Preventive Medicine Division. Therefore, on 11 July 1945, the Personnel Division was reorganized so as to provide proper administrative units within the Division to deal with officers' qualification standards and with certain aspects of the Bureau's training program.[40] The functions of qualifications standards in the Professional Division were transferred to a Medical Corps Branch of the Personnel Division, and the internship and resident training program of the Professional Division and the Audio-Visual Training Branch of Preventive Medicine Division were placed in the Training Branch of the Personnel Division. As established by this reorganization of functions, the Personnel Division came to have 5 branches: Complement Planning and Control, Medical Corps, Nurse Corps, Hospital Corps, Training Branch.

B. Administration Division

At the beginning of World War II, this Division bore the title "Administrative Division" and handled such matters as civilian personnel, mail, files, dispatches, space, bureau budgets, claims, care of dead, printing, and legislation. To expedite these functions, the Division was divided into 8 sections, with the Chief Clerk as head of the Division.[41] The Chief Clerk also functioned as an advisor on general administrative problems. It was this latter function which came to overlap the duties and responsibilities

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40. BuMed-E-LG, A3-4/EN (073-40), 11 July 1945.

41. BuMed-Ca-MEB, A3-1/EN10(114), 30 Nov. 1942.

of the Special Assistant, as noted above.

The June 1943 reorganization of the Office of Chief Clerk removed the Chief Clerk as head of the Administrative Division and placed the Assistant Chief Clerk in charge of the Division. Shortly thereafter the title of the Division was changed from "Administrative" to "Administration" upon the merger of the Special Assistant's office with the Administration Division, when the Special Assistant became chief of the Division.

As of 19 June 1943, the internal organization of the Division was composed of eight sections: Claims, Public Voucher, Civilian Personnel, Supply, Printing and Binding, Correspondence Files, Mail, and Care of the Dead. The Claims Section was charged with the responsiblity of adjudicating claims for expenses incurred for medical, dental, and hospital treatment, and funeral expenses. It also authorized professional treatment from civilian sources and government hospitals other than naval. The Public Voucher Section audited bills for medical, dental, and hospital treatment, and prepared public vouchers in payment of bills for such treatments. Records, pay, training, authorization of complements, etc., of civilian personnel were handled by the Civilian Personnel Section. The Supply Section had cognizance of office equipment and supplies, while the Printing and Binding Section was concerned with the procurement of all printed matter for BuMed and for the Medical Department in the field. The Correspondence Files Section was responsible

for routing, indexing, receipt and filing of mail, and the Mail Section had care of incoming and outgoing mail, mail lists, and distributing of professional publications. The remaining section, Care of the Dead, was responsible for the care, transportation, and burial of the dead.[42]

The organization and function of the Administration Division underwent several changes during the fiscal year 1943. Not the least important of these was the consolidation of the Correspondence Files and Mail Sections into a Mail and Files Section.[43] Mail activities of the Division were thereby brought into a single administrative unit. In the Claims Section, changes in methods, greater utilization of form letters, and a reduction of required entries on the face of public vouchers cut clerical and typing time in this section to about 50 percent. A system was also put into effect in the same section, whereby combined bills for medical care of personnel and certain naval hospitals and training schools were to be submitted.[44] This eliminated individual authorization, reports and bills, and amounted to an annual savings of about $30,000. Another innovation in the Claims Sections during the same period was concerned with the handling of correspondence leading to the settlement of bills for medical, hospital, dental,

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42. BuMed Organization Chart, 19 June 1942.

43. Annual Report, Ch BuMed, Fiscal Year 1943.

44. Ibid.

or funeral expenses. Correspondence of this nature had ordinarily been filed with the medical record of the service personnel concerned. The change provided for the retaining of such correspondence in a memoranda file until the case was completed. To all this may be added the transferral of certain claims functions of the Dentistry Division to the Administrative Division. Although the organization set-up of the Administrative Division was designed to care for all medical and dental claims arising out of services rendered by individuals and activities other than those of the Medical Department, dental claims continued to be handled by the Dentistry Division. This was corrected by assigning such functions to the Administrative Division.[45]

The next important step in the organizational history of the Administration Division was the major reorganization which occurred on 3 November 1943.[46] This was occasioned by the fact that such important functions as management and security had been given no definite place in BuMed's divisional scheme. Management functions had been performed by the Special Assistant, and, as has been seen, there had been some overlapping of these functions; and Bureau security duties were spread rather widely and lacked proper integration with divisional activities. There was also need for providing an organizational niche for the functions and personnel of a history

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45. Ibid.

46. BuMed-E-AIJ, A3-4/EN (073-40), 3 Nov. 1943.

program which had been established to write the administrative, narrative, and professional history of the Medical Department, as well as to register, obtain necessary clearances, and issue all circular letters originating in the Bureau.[47] The history program also was enlarged to include general records administration for the bureau as well as the Medical Department as a whole.

This reorganization established, under the Chief of Division, a Management Branch, a Personnel Branch, a Service Branch, and a Security Branch. Along with the setting up of these branches went important transferral of functions and personnel from other offices and divisions of the Bureau. The Office of the Special Assistant was officially merged into the office of Chief of the Division. The personnel and functions of the Civilian Branch and the Bureau Military Section of the Military Branch of the Personnel Division were placed in the Personnel Branch of the new Division.[48] The functions of the Internal Security Section of the Planning Division were transferred to the Administration Division's Security Branch, and shortly thereafter a Wave officer was placed in charge of the branch with the Chief of Division acting as Security Officer. The administrative and narrative history personnel were put in the Administrative History Section, Management Branch. (The professional aspects of the history programs which

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47. BuMed-E-AIJ, A12-1/EN (062-42), 18 Dec. 1943.

48. Ibid.

were to be concerned with medical subjects were, for administrative purposes, to be assigned elsewhere in the Bureau under the direction of a medical officer.)

From an organizational and functional point of view, this reorganization was a great improvement upon the former structural outlines of the Division. Four principal functions of administration were now gathered together into 4 major units, and the earlier concept of functions divided rather loosely among 8 sections were all placed in the Services Branch. A management Branch, with three sections--Organization and Planning, Methods and Procedures, Administrative History--provided a central agency for dealing with management problems. By taking over all civilian and Bureau military personnel management activities from the Personnel Division, the Administration Division was in a position to give effective direction to these matters customarily associated with management and administrative functions.

A noticeable improvement in administrative functions resulted from the reorganization of the Division; but a few additional definitions of functions remained to be clarified, and some minor personnel adjustments had to be made. In order to establish an effective procedure for requesting personnel action in BuMed, it was directed that all such requests were to be made to the officer-in-charge of the Personnel Branch of the Administration Division.[49]

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49. BuMed-E-LG, P16-1/EN, 8 May 1944.

This procedure enabled the Division to review all such requests for administrative and management purposes. In the case of military personnel the requests were submitted to the Personnel Division for appropriate action. Also, in July 1944, in order to give direction to the handling of Medical Department forms, a Printing and Forms Control Section was set up in the Service Branch.[50] Functions relating to the care of the dead and Bureau records necessitated the assignment of one additional officer to the Administration Division and the reassignment of duties within the Division.[51] The additional officer was given the duties of Graves Registration Liaison Officer, to serve in a liaison capacity with the Army in connection with matters of evacuation of the dead from overseas. The other, in accordance with a request from Under SecNav, was appointed Bureau Records Officer. This meant a reassignment of additional duties within the Division. Records work previously had been performed as one of the several duties of the Assistant Chief of Division, who by additional duty was head of the Administrative History Section.

C. Planning Division

The Planning Division, at the beginning of World War II, performed planning, procurement, and research functions. It prepared

50. BuMed-E-LG, A3-4/EM (073-40), 17 Jul 1944.

51. BuMed-E-BH, A3-4/EN (073-40), 13 Dec. 1944; BuMed-E-LG, A3-4/EN (073-40), 14 July 1945.

all plans relative to future activities of the Bureau in accordance with directives issued by the Office of CNO, and functioned in the integration of plans with those of other bureaus and offices of the Navy Department.[52] Working in cooperation with other divisions of BuMed and with the naval supply depots, it developed and improved outfits of Medical Department material. It engaged in planning for reserve stocks of the Medical Department and was concerned in the design and construction of hospitals. It also represented the Bureau on the Army and Navy Munitions Board, the Joint Board, the Federal Specifications Executive Committee, and on the Navy Department Specifications Board.

The work of the Division was handled by 5 sections: War Plans, Allocation and Priority, Design, Specifications, and Correspondence Files. The War Plans Section studied, received, and made recommendations on war plans. The Allocation and Priority Section received preference rating certificates covering medical purchases, studied and took appropriate action on data concerning material deliveries of medical supplies, and represented BuMed on various product groups dealing with medical, surgical, and health supplies. The Design Section was concerned with the designing of preliminary layouts of medical facilities, and in this capacity cooperated closely with Bureau of Docks. The Specifications Section developed and maintained specifications covering supplies

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52. Annual Report, Ch BuMed, Fiscal Year 1939.

and equipment purchased for the Medical Department of the Navy. The Correspondence Files Section studied, briefed, and filed classified mail.

Until late in 1943, when measures were taken for a general reorganization of BuMed, the organizational structure and functions of the Planning Division remained very much as they had been prior to the war. Among the more important readjustments and redefinitions of functions which were brought about before a complete reorganization of the Division was made, was the establishment of a Military Intelligence Section.[53] Duties of the nature described in the title of the section had been performed as additional duties by another section; and, since many of the functions of the Division were concerned with medical supplies and material, it was found necessary to bring about a more effective coordination of functions by assigning two officers of the Naval Medical Supply Depot, Brooklyn, to the Planning Division.

The question of medical supply activities, always one of extreme importance in the success or failure of the mission of the Medical Department, was responsible in no small measure for the reorganization of the Planning Division. As of 30 October 1943, the Naval Medical Supply Depot, Brooklyn, and the Planning Division overlapped in six principal supply functions.[54] Coupled with this

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53. Annual Report, Ch BuMed, Fiscal Year, 1943.

54. Special Assistant to the Surgeon General, Survey of Medical Supply Activities, Medical Department, U. S. Navy, 30 Oct. 1943.

was the proposal of removing the security functions of the Planning Division to the Administration Division and the need to clarify the plans and design, and construction functions.

After considerable study of the place of the Division in the organization of BuMed, and with the assistance of responsible personnel in the Division, the Special Assistant submitted a functional reorganization scheme for the Division; the greater part of his suggestions were approved, and on 10 November 1943, the reorganization was effected.[55] The new plan made provisions for structural simplicity and for well-defined definitions of functional areas. The functions were relegated, under the Chief of Division, to two branches: the War Plans Branch, and the Design and Construction Branch. Sectional units in the first of these branches were to be concerned with current plans, future plans, military intelligence, and secret and confidential materials. The second branch, Design and Construction, was to have its work distributed among three sections. In this latter branch, the Facilities Utilization Section was to maintain records pertaining to patient traffic and hospital bed occupancy (a function later transferred to the Professional Division), as well as review and make recommendations on real estate matters relating to Medical Department facilities ashore. The other two sections in this branch, the Ship Facilities Section and the Shore Facilities Section, were to work in close

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55. BuMed-E-AIJ, A3-4/EN (073-40), 10 Nov, 1943.

collaboration with BuDocks in the design and construction of medical facilities afloat and ashore.

Although this reorganization did away with the Division's functions in the field of medical supplies and brought about a more closely integrated organization for dealing with construction problems, experience soon demonstrated that there was further need for a modification of the functions of the Division. The Hospitalization Branch of the Professional Division performed certain functions relating to construction which logically belonged in the Planning Division. To remedy this situation, the Facilities Utilization Section was redesignated as the "Public Works Section" and was given broad cognizance over matters relating to public works. As modified, the section was now to develop general policies and specific programs, review field estimates, censor work requests and purchase requisitions, and initiate BuMed's formal authorization or disapproval of material and services for plant construction.[56]

It had long been a practice for officer personnel of the Planning Division to serve in important liaison capacities. This does not mean that other divisions did not perform like functions, but the very nature of planning entailed the necessity of extensive liaison activities. Recognizing the importance of keeping in close touch with the Marine Corps, there was therefore established

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56. BuMed-E-LG, A3-4/EN (073-40), 18 Aug. 1944.

in the Planning Division the Combat Medical Planning Branch.[57] This provided a focal point in the Bureau for corrdinating Medical Department functions as they related to the Marine Corps, and, upon the request of BuMed, a desk for the liaison officer was established in the Marine Corps Headquarters. As the work of this section increased, and as peculiar medical problems arose in connection with amphibious combat conditions, provisions were made for establishing in the Division an administrative unti at the branch level. Therefore the branch name was changed to "Combat Medical Planning Branch", with the additional function of making plans and recommendations on amphibious warfare.[58]

Liaison functions were also strengthened with the Office of CNO, and with BuShips and Congress. In August 1943, three officers of the War Plans Section were assigned to the Office of CNO.[59] In the following year the Chief of the Planning Division was designated liaison officer for the Congressional Relationships Information Services;[60] and there was also in the Division an officer who acted in a similar capacity with BuShips.[61]

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57. BuMed-E-LG, A3-4/EN (073-40), 12 June 1944.
58. BuMed-A3-4/EN (073-40), 11 Oct. 1944.
59. BuMed-E-AIJ, A3-4/EN (073-40), 20 Aug. 1943.
60. BuMed-E-LG, A3-4/EN (073-40), 5 May 1944.
61. The extend of liaison activities is not limited to the individuals mentioned above. One of the principal functions of BuMed consists of maintaining close contact with all agencies concerned with matters pertinent to Navy medicine. But a listing of all liaison activities would serve no real purpose. Only those of importance are mentioned.

D. Preventive Medicine Division

Prevention of disease has long been considered a major job of military medical activities. The health of the Navy depends in great measure on the success or failure of the Medical Department's control over epidemics and communicable diseases. Constant attention must therefore be directed to ways and means of safeguarding naval personnel from contracting disease.

BuMed's machinery for giving administrative direction to the preventive aspects of Navy medicine resides in the Preventive Medicine Division. The work of the Division, on the eve of World War II, was distributed among 6 sections: Administrative and Reports, Epidemiology, Vital Statistics, Venereal Disease Control and Sanitation, Industrial Hygiene, and Research.[62] The functions of the Division were, in general, to study and analyze industrial hazards and develop methods for their control; study and devise methods for control of epidemics and communicable diseases; collect, compile and analyze vital statistics, and to conduct special investigations along lines of preventive medicine.

With the growth of the importance of visual aids in educational programs, and inasmuch as a great deal of such programs dealt with preventive medicine aspects, an Audio-Visual Education Section was established in the Preventive Medicine Division.[63] This step

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62. Annual Report, Ch BuMed, Fiscal Year 1941.
63. Annual Report, Ch BuMed, Fiscal Year 1943.

was taken in July 1942; and in the early part of the succeeding year, owing to the need for the creation of an administrative unit for the many and serious problems dealing with the control of tropical diseases, the Tropical Medicine Section was established.[64] This section was to aid in formulating policies dealing with special problems incident to combat operations in tropical areas, and to coordinate the medical program with the programs of other services and governmental agencies directly concerned with the prosecution of the war.

In order to broaden the Division's control over sanitation and infectious diseases, it became necessary to undertake further organizational changes. Late in 1943, a Sanitary Engineering Section was placed in the Division and in March 1944 an Acute Infectious Diseases Control Section was established.[65] The engineering section was to advise on the design, construction, operation and maintenance of water and sewage systems, as well as on engineering phases of insect and rodent control. These functions were to be performed from the prospective of preventive medicine and public health. The Acute Infectious Diseases Control Section was to concern itself with developing policies for improving methods of handling streptococcal infections, rheumatic fever, and rheumatic heart disease.

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64. S. G. Memo, EN 10/A3-1 (021), 6 Feb. 1943.

65. BuMed-E-AIJ, EN10/A3-1(021), 22 Nov. 1943; BuMed-E-LG, A3-4/EN (073-40), 7 Mar. 1944.

By summer of 1944, the Preventive Medicine Division was rapidly approaching the point where a complete overhauling was needed. Preventive Medicine was hardly the only important phase of medical practice. There were certain other professional aspects such as surgery, neuropsychiatry, and rehabilitation which demanded administrative recognition. The Bureau had not neglected these functions, but there was no centralized direction of them. Coupled with this and with an obvious need for reorganizing the Preventive Medicine Division to take care of added responsiblities, a division was established for handling other specific medical functions, and the Preventive Medicine Division was reorganized.[66]

The reorganization was made effective as of 18 August 1944. Under the direction of a Division head, the work of the Division was divided among 4 branches: Communicable Disease Control Branch, Sanitation and Health Branch, Medical Statistics Branch, Audio-Visual Education Branch. Fourteen sections were established in the Division to expedite branch functions. Epidemiology, tropical disease, venereal disease, and tuberculosis control functions were placed in separate sections of the Communicable Disease Control Branch. The work of the Sanitation and Health Branch was distributed among 4 sections: Sanitation, Industrial Health, Dietetics, and Civilian Public Health. The Audio-Visual Education Branch was composed of a Program Coordination Section, a Script Section, and

66. BuMed-E-LG, A3-4/EN (073-40), 18 Aug. 1943.

a Medical Technical Section. Medical statistics functions were divided among a Statistical Analysis Section, a Statistical Layout Section, and a Statistical Processing Section.

The structural change of the Division was accompanied by a number of significant transferrals of functions between divisions. Functions and personnel relating to a tuberculosis program in the Preventive Medicine Division and all clinical aspects of communicable diseases were defined as residing in the new Professional Division. A rheumatic fever program under the direction of Preventive Medicine was assigned to the Professional Division.

No changes of great significance were made in the functions and organization of the Preventive Medicine Division until the fall of 1945. The reorganization which took place at that time simplified the structure of the Division and added one important function.[67] The work of the 4 branches was consolidated into 2 branches, an Epidemiology Branch and a Sanitation and Hygiene Branch. It will be noticed that 2 branches, Medical Statistics and Audio-Visual Education, no longer existed. The first of these, the Medical Statistics Branch, had, a few days prior to the reorganization of the Preventive Medicine Division, been separated from the Preventive Medicine Division to become the newly created Medical Statistics Division. The second branch, Audio-Visual Education, was transferred to the

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67. BuMed-E-LG, A3-4/EN (073-40), 4 Oct. 1945.

Personnel Division. Medical Statistics, always an important function of BuMed, had reached the point where it was necessary to provide an administrative unit on a divisional level for dealing with matters of a statistical nature.[68] Owing to BuMed's policy of centralizing all major educational functions in the Personnel Division, the personnel and functions of the Audio-Visual Education Branch were transferred to that Division.

Reorganization also brought about a number of changes in titles and functions of several of the Division's sections. The functions and personnel of the Epidemic Diseases Control Section were transferred to the Communicable Diseases Control Section. The former Sanitation Section now became the General Sanitation Section; the personnel and functions of the Special Projects Section, which had been established to perform functions relating to communicable diseases not specifically provided for but requiring specialized action, were transferred to the Office of the Chief of the Division.[69] The Tropical Diseases Control Section was abolished, and its functions were divided between two newly-established sections, Insect and Pest Control, and Rodent Control. The therapeutic aspects of tropical diseases were being handled by the Professional Division. The preventive functions of tropical diseases continued to reside in this Division. By abolishing the Tropical Disease Control

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68. See section on Medical Statistics Division.

69. BuMed, A3-4/EN (073-40), 24 Mar. 1945.

Section and setting up in its place the two mentioned sections, a clearer definition of the type of work conducted along lines of tropical diseases control was made.

Two further changes need to be mentioned. First, the Dietetics Section was abolished by the reorganization of the Division. For some time there had been doubt as to whether or not dietetics should be given a place in the organizational structure of the Division. It was concluded that it should not, and, as stated, the section was eliminated at the time of reorganization. The other item of organizational interest is concerned with the transfer of the functions of the Office of Quarantine Liaison to the Preventive Medicine Division. This office had been established on 27 November 1944, and was to have cognizance of all matters of quarantine in the Navy.[70] The functions of the office logically belonged in the Preventive Medicine Division, but the assignment to the office of an officer of higher rank than the Chief of the Preventive Medicine Division precluded the possibility of placing the functions of the office in the Preventive Medicine Division.

Thus, in little over a year's time the Preventive Medicine Division's organizational structure had been reduced from 4 branches and 14 sections to 2 branches and 8 sections. Functions which were not of a strict preventive medicine character had been eliminated,

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70. BuMed-E-LG, A3-4/EN (073-40), 27 Nov. 1944.

and clearer lines of functional areas were described.

E. Professional Division

At the beginning of World War II, there were several professional medical functions of BuMed which were closely allied yet were not under the direction of a single administrative unit. Reference is made to such functions as internal medicine, surgery, neuropsychiatry, and rehabilitation. Furthermore, the therapy of diseases was seldom approached as a subject in itself. Therapeutic functions existed in several divisions, especially in the Research Division and the Preventive Medicine Division. BuMed had followed a policy of seeking the advice and consultation in the diagnosis and therapy of diseases from medical specialists of the several divisions. From an administrative point of view, the policy was obviously unsatisfactory. Therefore during the early part of 1944, studies were made regarding the establishment of a Professional Division, and as a result of these studies the Professional Division was established by directive on 18 August.[71]

Inasmuch as there were a number of functions performed by the Preventive Medicine Division which rightly belonged in the new Division, it was necessary to reorganize that Division in conjunction with the organization of the Professional Division. All functions of the Preventive Medicine Division pertaining to

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71. BuMed-E-LG, A3-4/EN (073-40), 18 Aug. 1944.

clinical phases of medicine were transferred to the Professional Division. This involved, among other things, the transfer from the Preventive Medicine Division of a program relating to the treatment of rheumatic fever at the U. S. Naval Hospital at Corona, California, and of a program on the treatment of malaria and filariasis at the Marine Barracks, Kalmath Falls, Oregon. Some of the functions of the Physical Qualifications and Medical Records Division and the Planning Division were also transferred to the new Division. The Neuropsychiatry Branch, which had been operating in the Physical Qualifications and Medical Records Division without direction from the Chief of the Division, was also transferred to the Professional Division. The work of this important branch was no longer to be a mere adjunct to the functions of a division. As a branch in the Professional Division it would receive adequate direction. The final readjustment of divisional functions as provided for in this reorganization took place with the transferral of certain hospitalization functions from the Planning Division. These types of functions were those relating to availability and utilization of beds, designation of hospitals for special patients, evacuation of casualties from overseas, and movement of patients within the United States.

The establishment of the Professional Division absorbed the functions of the Office of Rehabilitation. This office, under the direction of a captain, had been set up in March 1944.[72] The

72. BuMed-E-LG, P4-4/P3-2(034), 31 Mar. 1944.

functions, in general, of this office were to be concerned with supplementing therapeutic procedures for achieving maximum adjustments of patients for further military service or return to civilian life. As long as there was no higher administrative unit in BuMed to deal with the therapeutic aspects of the Bureau's rehabilitation program, the assigning of such functions to a single office was logical; but, upon the creation of the Professional Division, the rehabilitation services of the Bureau were appropriately lodged in the newly established Division.

The structural organization of the Professional Division, as established on 18 August 1944, was composed of 4 branches, with the functions of the branches divided among 10 sections. The functions of the Medicine and Surgery Branch were distributed among 3 sections: Medicine, Surgery, and Tropical Medicine. The Medicine Section was to be concerned with internal medicine and its specialties. The clinical aspects of tropical disease were to be under the cognizance of the Tropical Medicine Section, and matters relating to general surgery and surgical specialties were to be handled by the Surgery Section. In the Neuropsychiatry Branch were the Psychiatric Selection Section, the Psychiatric Therapy Section, and the Psychiatric Review Section. The first of these sections was to perform the functions of the Branch as they related to the selection and screening of naval personnel. The second, Psychiatric Therapy Section, was charged with the responsiblity of managing the functions of the Branch as they related to psychiatric techniques.

The Psychiatric Review Section was to review case records and reports and take appropriate action thereon. In the Rehabilitation Branch there were three sections--the Physical Medicine Section, the Special Services Section, and the Readjustment Services Section. Physical therapy, physical training, and occupational therapy were to be the concern of the first of these sections, while matters relating to rehabilitation programs for blind, deaf, and amputee patients were to be directed by the Special Services Section. The Readjustment Services Section was to perform the functions of the Branch as they related to training, education, recreation, and counseling. The fourth branch, Hospitalization, consisted of one section. This was the Facilities Utilization Section, which was to have cognizance of those functions relating to availability and utilization of beds, evacuation of casualties, and movement of patients from overseas.

The organizational structure and functions of the Professional Division were not to remain long undisturbed. It became apparent that no adequate provision had been made to taking care of problems relating to hospitalization and medical care of dependents. Therefore in September the Dependents Service Section was established in the Division.[73] This Section was placed in the Hospitalization Branch and was to perform functions of the Branch as they related to medical, hospital, and outpatient care of dependents of

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73. BuMed-E-LG, A3-4/EN (073-40), 8 Sept. 1944.

naval officers and enlisted personnel. During the following month, one of the functionally smaller divisions was merged with the activities of the Hospitalization Branch.[74] This was the Red Cross Naval Activities Division, which had long been functioning primarily as a BuMed liaison agency with the Red Cross. Since it was operating with a relatively small set-up and its activities were limited, Red Cross activities administered at a divisional level were questionable. Placing such activities in the Professional Division might also be questioned. The move, however, was recognized as a temporary expedient, and in November 1945 the Red Cross Navy Medical Section of the Division was abolished by establishing Red Cross liaison activities in the Office of the Chief of the Bureau.[75]

Experience proved that the consolidation of medicine and surgery functions of the Professional Division into a single branch was not desirable. The broad fields of medicine and surgery are not mutually exclusive, but for purposes of centralized authority and continuity of direction of medical and sugical specialties, it was felt necessary to divide the appropriate functions between 2 branches. This was accomplished on 26 May 1945 through a reorganization of the Division.[76] Surgical specialties were now to be the concern of the Surgery Branch, while functions relating to internal

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74. BuMed-E-LG, A3-4/EN (073-40), 14 Oct. 1944.

75. BuMed-E-LG, A3-4/EN, 2 Nov. 1945.

76. BuMed-E-LG, A3-4/EN, 26 May 1945.

medicine and tropical diseases would reside in the Medicine Branch.

In July two important functions of the Professional Division were transferred to other divisions.[77] One of these, an internship and resident training program which was being developed by the Division, was put under the cognizance of the Personnel Division. This was in line with the Bureau's policy of delegating training and educational functions to the latter Division. The Professional Division had also carried on certain functions relating to the establishment of officers' qualifications standards. These, too, were transferred to the Personnel Division.

At this writing, the Professional Division has been in existence for little more than a year. It may, therefore, be expected that other important changes will be brought about in the organization and functions of the Division by the accumulated experiences of time. But whatever those changes may be, it is safe to predict that the Professional Division will continue to carry on as one of BuMed's principal administrative units. Considerable credit for the establishment of the Division must go to the Surgeon General's special assistant for management problems. It was he who very early in his administrative studies pointed out the Bureau's need for a division of this character.

F. Physical Qualifications and Medical Records Division

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77. BuMed-E-LG, A3-4/EN, 11 July 1945.

The Physical Qualifications and Medical Records Division reviews, makes recommendations, and takes action on all reports or requests involving physical examinations and qualifications of all past or present Navy and Marine Corps personnel, and files and preserves their medical records. The Division does not, however, pass on physical qualifications of flying personnel and other specific matters relating thereto. These are functions which are under the cognizance of the Aviation Medicine Division.

The organizational structure and functions of this Division have undergone considerable change and modification during the last decade. In 1931 its functions were distributed among three sections. A Physical Qualifications Section had cognizance of matters relating to physical qualifications, retiring boards, medical surveys, etc; a Veterans' Revision Section was charged with the responsiblity of preparing medical history data and abstracts for public and private use; and medical records, mail, death certificates, etc., were under the direction of the Medical Record Files Section.[78]

This rather simplified divisional organization was hardly satisfactory for dealing with new and complicated problems arising out of an expanded Navy and the exigencies of war. By June 1942 the Division had been reorganized into two sections.[79] A Physical

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78. BuMed Organization Chart, 5 June 1931.

79. BuMed Organization Chart, 19 June 1942.

Qualifications Section, under which there were two units, the Record Reproduction Unit and the Legal Medicine Unit, performed those functions relating to physical qualifications, acted on recommendations of retiring boards and boards of similar nature, and prepared medical history and legal data. The Medical Records Section maintained files of medical histories of all Navy and Marine Corps personnel, received and distributed the Division's mail, was responsible for action on death certificates, and received and verified health records.

During the latter part of 1942 and early in 1943, a number of improved procedures were adopted by the Division to cope with an ever-increasing work-load of the Division. One of the more important procedural improvements dealt with a problem of filing individual medical records. A plan for converting a numerical sequence into a direct alphabetical file was approved and put into operation.[80]

Not only were improvements made in certain procedural matters, but also measures were taken to strengthen the organizational framework of the Division. During the fiscal year 1943 the Physical Qualifications Section was separated into several units.[81] Each of these units was assigned one type of work, in which officer and civilian personnel had become proficient. This

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80. Annual Report, Ch BuMed, Fiscal Year 1943.

81. Ibid.

facilitated the training of personnel and increased the production of the Section. At approximately the same time, there was a modification of the Legal Medicine Section. Three units--Legal Medicine, Medical Records Reproduction, and Death Records--were combined in one office under the supervision of the officer-in-charge of the Legal Medicine Section. Besides relieving the Division chief of many details, this organizational modification increased the effectiveness of personnel and equipment and made it possible to turn out more work. For organizational reasons there was also established in the Division a Neuropsychiatric Section.[82] The neuropsychiatric functions of Bumed had long been without organizational machinery for a proper handling of such functions. Work done along these lines had been in the hands of a medical officer assigned to the Division, and as neuropsychiatric problems became increasingly important, it became apparent that a definite organizational unit would have to be established for the direction of functions of this nature. For want of a better place, and since such work was already under the direction of an officer in the Physical Qualifications and Medical Records Division, the new Section was fitted rather loosely into the structural scheme of the Division. This was only a temporary arrangement, and as has been indicated, the Section was to be transferred to the Professional Division.

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82. Bumed-C-LET, A6-6/EN10(032-41), 30 Nov. 1942.

As the fiscal year 1943 drew to a close, a number of organizational studies were in progress. Studies of this nature indicated a need for a reorganization of the Physical Qualifications and Medical Records Division. Therefore, on 20 September 1943, the Surgeon General approved a reorganization of the Division.[83] The plan provided for 4 branches--Physical Qualifications, Legal Machine, Medical Records, and Neuropsychiatry. The functions of the Physical Qualifications Branch were divided between the Procurement and Active Service Section and the Disability Disposition Section. The first of these sections was to have cognizance of all matters dealing with review and action on all reports of physical examinations. Two units, Officer Unit and Enlisted Unit, were established in the Section to expedite the Section's functions. The other Section, Disability Disposition, consisted of similar-titled units, whose functions were to take action on medical surveys. The Legal Medicine Branch, composed of a Legal Review Section, a Health Reports Section, and a Record Reproduction Section, was charged with the responsibility of preparing opinions and furnishing advice on medico-legal matters. (A specialist in medical law was brought into the Bureau shortly after the reorganization of the Division, but, unfortunately, his opinions were often in conflict with well established ways of doing things. Within a few months he was therefore relieved of his duties.) The work of this Branch was

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83. BuMed-E-AIJ, A3-4/EN (07340), 20 Sept. 1943.

divided among seven units: Medical Records Information, Courts and Boards, Micscellaneous Legal Matters, Death Records Information, Death Certificates, Abstracts, Photostat. The Medical Records Branch, charged with the duties of filing, preserving, and making available all medical records of Navy and Marine Corps personnel and handling the Division's mail, was divided into a Filing Section, a Special Search Section, and a Mail Section. The Neuropsychiatry Branch was set up as a temporary adjunct of the Division. As stated above, this Branch became a part of the Professional Division in August 1944.

The exceptionally heavy work-load of the Medical Records Branch occasioned a management study of the Branch with a view to improving and facilitating the Branch's functions. Upon receipt of BuMed, a survey of requirements of the Branch was made by a representative of the Office of Records Administration, EXOS, in the spring of 1944. Briefly, the representative's recommendations were as follows: (a) provide additional space; (b) procure 1,400,000 more folders and 800 five-drawer steel file cabinets; (c) appoint an officer to take charge of all phases of operation in the Branch; and (d) assign an officer of the Management Branch, Administrative Division, to act in a regular advisory capacity to the officer-in-charge of the Branch.[84] The recommendations were soon adopted.[85]

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84. BuMed-E-LG, A3-4/EN (073-40), 5 May 1944.

85. BuMed-E-BHL, A3-4/EN (073-40), 5 June 1944.

An officer-in-charge was appointed to coordinate the Branch's functions; and a decision was reached between the Division and the Personnel Branch of the Administration Division to the effect that personnel assigned specific duties would be used in those duties, and that no significant transfers or changes would be made without clearance first with the Personnel Branch. This decision was made to avoid the possible misuse of personnel assigned to specific billets. The space allotment problem was solved in June by moving the Division to Temporary Building X.

One further important organizational change of the Physical Qualifications and Medical Records Division needs to be mentioned. This was brought about to a great extent by the recommendations of a BuMed survey conducted by the Manpower Survey Board early in 1945, and to an equally great extent by the need for readjustments in the Medical Records and Legal Medicine Branches. Certain files and personnel in the former Branch were vital to the work of the latter, and with the conclusion of the war came additional medico-legal duties in connection with the rights and claims of veterans. Therefore, in order to provide an adequate organizational and functional scheme for the increased work of the Division, Physical Qualifications and Medical Records was reorganized by directive on 4 July 1945.[86] The basic functions of the Division were not disturbed. The organizational changes were at the unit level, with

86. BuMed-E-LG, A3-4/EN, 4 July 1945.

consolidation and redefinition of some of the functions in the Medical Records Branch, and with additional units in the Legal Medicine Branch to care for many problems arising from the Bureau's relationship with the Veterans' Administration. For example, the Medical Records Information Unit, Legal Review Section, was raised to section level, with a Correspondence Unit, a Selective Service Unit, a Veterans' Administrative Unit, and an Abstract Unit.

G. Aviation Medicine Division

Owing to the fact that the aviation medicine functions of the Medical Department are of a limited and highly specialized character, there has been little need for establishing, within BuMed, an elaborate administrative body for dealing with aviation problems. The principal functions of the Aviation Medicine Division have been concerned with developing psychological techniques as they relate to the air forces and to make recommendations concerning physical requirements of flying and ground personnel. It has also come to have administrative cognizance of training and employment of medical officers, flight nurses, and other technical specialists assigned to the air arm of the Navy. In this capacity it has functioned closely with the Personnel Division, and has also worked in cooperation with the Physical Requirements and Medical Records Division. Before the war it also directed much of its attention to air research. This has not ceased, but many of its research functions have been transferred to BuAer. This is a logical

assignment of functions, and is coordinated through liaison activities of BuAer and the Aviation Medicine Division.

Prior to the war the Aviation Medicine Division functioned within a narrow organizational frame. In June of 1942 there were only two sections in the Division. These were the Physical Qualification Section and the Medical Liaison Section.[87] The first was concerned with matters relating to physical examinations for flying and with general qualifications of difference classes of applicants for flight training. The second section, Medical Liaison, was under the joint cognizance of the Aviation Medicine and Research Divisions and acted in a liaison capacity with BuAer.

Research and cooperation with other agencies interested in flight problems have been of major concern to the Aviation Medicine Division. Since 1940 considerable progress has been made in studies relating to altitude flying and oxygen privation. This is also true with regard to the development of numerous aptitude tests for the selection of aviation candidates. Many such problems have been worked out in cooperation with private and public agencies, and BuMed has at all times encouraged such agencies in developing sound aviation medical techniques. Beginning in about 1940, BuMed cooperated closely with the Civil Aeronautics Authority by making available medical personnel and facilities for conducting physical

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87. BuMed Organization Chart, 19 June 1942.

examinations.[88] Physical standards for flying personnel of this agency were the same as for naval aviation cadets. BuMed was thus creating a pool from which future naval aviators could be drawn.

During the fiscal year 1942 the work of the Division continued to expand.[89] Not only were research programs accelerated, but also considerable attention was directed to the school of flight surgery at Pensacola; and facilities were made available at the Naval Medical Center for the study of aviation problems. Low pressure chambers were installed at the principal training stations, and measures for the examination and classification of pilots with regard to their altitude tolerance were established as routine procedure. Added to this was the progress made in the improvements of oxygen supply and equipment, in the fields of night vision, and in the development of special tests for the selection of flying personnel. Impetus was also given to psychology programs. Psychologists were enrolled in a class of hospital corpsmen specialists to conduct psychological tests, and later several eminent civilian psychologists were commissioned and assigned to duty in the Division.

Increased work in the field of aviation medicine necessitated a reorganization of the Division. The Division was therefore divided into 5 sections: Physical Qualifications for Flying,

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88. Annual Report, Ch BuMed, Fiscal Year 1941; BuMed-A21/PZ-5(061) 5 June 1940; AM1/hec, A18-1/EN (122-41), 2 Mar. 1943.

89. Annual Report, Ch BuMed, Fiscal Year 1942.

Aviation Psychology, Research (assigned to and in liaison with BuAer), Training (coordinated with Training Division, BuAer), and Administrative.[90] No further changes of consequence were made until 27 November 1944, when the Division was agin reorganized.[91] This provided for clear-cut definitions of functions and established 3 branches in place of the 5 sections. A Physical Qualifications Branch was charged with studying, advising, and making recommendations on matters concerned with physical requirements for flying and ground personnel. An Aviation Psychological Branch was to perform the functions of studying, administering, and making recommendations concerning psychological procedures and techniques. The third branch, Special Activities, was charged with the responsiblity of studying, evaluating, and making recommendations on medical needs, policies, and standards for the naval air forces. The reorganization also provided for the elimination of the former Administrative Section. The functions of this section were assigned to the Office of the Chief of Division.

Thus, the Aviation Medicine Division had evolved, organizationally, from 2 sections to 3 branches. Its functions had become more clearly defined, and it came to have considerable cognizance of personnel assigned to the professional medical aspects of the Navy air forces. In this latter capacity, the Division works in

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90. Annual Report, Ch BuMed, Fiscal Year 1943.

91. BuMed-E-LG, A3-4/EN (073-40), 27 Nov. 1944.

cooperation with the Personnel Division.

H. Research Division

The administration of the research functions of the Medical Department has presented some nice problems. Not the least of these was one concerned with whether or not research functions should be under the direction of the Naval Medical School or under BuMed's cognizance. The Naval Medical School's position as a training and research activity gave weight to the arguments of those who felt that the School was the logical administrative center for research in the fields of naval medicine. On the other hand, BuMed is the principal executive agency of the Medical Department, and it has therefore been pointed out that medical research functions should be under the direction of the Bureau. During the last fifteen years such direction has alternated between BuMed and the Naval Medical School. Today the over-all administration of these functions has come to rest in the Bureau.

The general structural and functional bases of the present Division date from January 1942,[92] when 5 sections were established to perform the functions of the Division.[93] The Administration Section was responsible for general problems of research, and acted in liaison capacities. The Submarine and War Gases Section had

92. Booz Survey, Survey of Administration Bureau of Medicine and Surgery, Navy Department, 25 July 1945.

93. BuMed Organization Chart, 19 June 1942.

cognizance of research matters relating to submarine, tanks, ventilation, gases, etc. The General Medicine Section devoted its time to problems dealing with surgery, wounds, blood, shock, burns, and psychiatry. Researches relating to dentistry were under the direction of the Dentistry Section; and a Library Section was responsible for filing, indexing, and abstracting reports, and was a repository and redistribution agency for information relating to research of interest to the Navy.

The Division underwent no important organizational changes until the closing months of the war. On 9 April 1945, after considerable study of BuMed's research functions, the Division was reorganized.[94] The principal structural units were to be 5 branches, and the functions of the several branches were clearly defined. The General Medicine Branch was to perform the Division's functions as they related to medicine and surgery problems. A special Fields and Agents Branch was to direct the Division's functions as they related to submarine, chemical warfare, armored vehicles, flame throwers, and air-borne infection control. These were functions which had formerly been under the cognizance of the Submarine and War Gases Section. A new functional unit was established at this time by the creation of the Biodynamics Branch. This branch was to be concerned with research of a physical, biophysical, chemical and mathematical nature as they related to man. The Dental Branch

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94. BuMed-E-LG, A3-4/EN, 9 Apr. 1945.

took the place of the Dentistry Section, and an Aviation Branch was set up to handle general research problems relating to flying. The Research Division had at all times worked in close cooperation with the Aviation Medicine Division, but there had not been any single unit in the Research Division charged with the responsibility of directing the aviation medicine activities of the Division. The establishment of the Aviation Branch therefore strengthened a weak point in the Division's structure.

The reorganization also made provision for two new sections, the BuMed News Letter Section and the Research Reference Section. They were both placed in the Office of the Chief of Division to assist the chief in his administrative duties. The latter Section replaced the former Library Section, and the BuMed News Letter Section provided an administrative niche for those responsible for the issuance of the BuMed News Letter. This very important publication, issued for the first time on 5 March 1943 under the editorial direction of a Medical Corps captain, serves the purpose of acquainting those in the field with current medical literature and important developments in naval medical research. It is distributed bi-weekly via regular and "V" mail to naval medical officers ashore and afloat. Since the subject matter of the publication is concerned to a great extent with knowledge gained from research, it has seemed advisable to assign the functions of its preparation and distribution to the Research Division rather than to the Publications Division.

One further important function of the Research Division

needs to be mentioned. This is in connection with reports from survivors. On 14 April 1942, the Surgeon General directed medical officers and corpsmen in the field to interview survivors for the purpose of gathering information which would be of value to the Medical Department in developing ways and means for coping with special medical problems confronting the survivor.[95] The survivor is interrogated on his period of exposure; type of boat or raft, together with the original number of occupants and the number of survivors; adequacy of food, water, first-aid supplies, etc.; emersion; exposure to sun; psychological condition of survivors; and gives a brief narrative of his experiences. The report, with recommendations of the reporting officer or corpsmen, is then sent to BuMed, where it is studied and acted upon by the Research Division. The professional and general historical value of such reports is apparent.

I. Finance Division

The Finance Division, formerly known as the Finance and Materiel Division, serves as BuMed's principal financial agency. It prepares the total annual Medical Department budget, and coordinates with cognizant divisions the processing of annual requests from all activities for allotments of appropriational funds from this budget. It establishes and maintains budgeting control over such funds and prescribes accounting systems for the control of

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95. BuMed-E-LG, A3-4/EN, 9 Apr. 1945.

Medical Department costs, property, and funds. It audits all receipts and expenditures and maintains records of values, and descriptions of plant facilities, equipment and supplies. The Division also engages in financial research and compiles legal and accounting data as required. To all these functions may be added those of training Hospital Corps personnel in appropriation, costs, and property accounting.

There have been several functional and organizational knots to untie in this Division. Structurally, it is now composed of 3 branches under the direction of the Chief of Division. Shortly after the outbreak of World War II, the Division's functions were distributed among 3 sections: the Budgets and Allotments Section, the Accounting and Reports Section, and the Procurement Section.[96] At this writing there are three branches: the Administrative Branch, the Audit Branch, and the Budget Branch.[97]

Certain aspects of organizational and functional modifications of the Finance Division are traceable to the Special Assistant to the Surgeon General's report on the medical supply activities of the Medical Department. This report, submitted 30 October 1943,

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96. Booz Survey, Survey of Administration, Bureau of Medicine and Surgery, Navy Department, 25 July 1942; BuMed Organization Chart 19 June 1942.

97. BuMed-E-AIJ, A3-4/EN (073-40), 10 Nov. 1943; BuMed-E-LG, A3-4/EN (073-40), 22 Mar. 1944.

pointed out that there was much overlapping of supply functions.[98] The Planning Division, the Finance Division, and the Naval Medical Supply Depot, Brooklyn, in many respects were responsible for similar functions. What these functions were as they applied to the Planning Division have been discussed above under the heading "Planning Division", and will be given further consideration under "Materiel Division". As for the Finance Division, it was shown that that Division performed 12 different functions relating to medical supplies. Of these 12, 7 overlapped with the functions of the NMSD, Brooklyn, and 3 with the Planning Division. This duplication occurred in the functional areas of determination of material requirements, procurement, and financial control.

To separate financial controls from those of procurement and requirements, the Special Assistant proposed that the Finance Division be divided into 2 branches, a Budget Branch and an Auditing Branch. The Budget Branch, according to the proposal, would prepare the total annual Medical Department budget, coordinate the processing of annual requests for allotments of appropriational funds, establish budgetory controls, censor requests, plan a continuing program for repair of Medical Department facilities, etc. The Auditing Branch would have cognizance of accounting systems and procedures, and would audit all accounts of receipts and expenditures of the Medical Department. In order to expedite the functions of

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98. Special Assistant to Surgeon General, Survey of Medical Supply Activities Medical Department, U. S. Navy, 30 Oct. 1945.

the 2 branches, each of the branches would be divided into 3 sections. The Budget Branch would have a Budget Estimate Section, a Budgetory Control Section, and a Public Works Section. The Auditing Branch would consist of a Maintenance Section, an Appropriations Section, and a Property Section.

The suggestions of the Special Assistant were acted upon, and the new organization of the Finance Division, approved 10 November 1943, made no provision for the Division's cognizance of supply activities aside from those of a purely financial nature.[99] The functional reorganization departed only in a small degree from the Special Assistant's proposals. A Budget Branch and an Auditing Branch were established as recommended, but there were some modifications in the number, name, and functions of the sections. Budgetory Control and Estimate functions were to reside in a Budgetory Control Section and a Budget Estimates Section. The Auditing Branch's functions were relegated to 4 sections: Appropriations, Costs, Property, and Technical Training. This last mentioned Section was to perform the functions of the Division as they related to the training of hospital corpsmen in accounting procedures. Training of hospital corpsmen in subjects of finance had not been dealt with in the Special Assistant's report but was of considerable importance. Provision was therefore made to create within the Division a single unit for the administrative guidance of programs of this

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99. BuMed-E-AI, A3-4/EN (073-40), 10 Nov. 1943.

nature.

No further organizational or functional modifications of the Finance Division were made until 1 April 1944.[100] The reorganization in November of 1943 had failed to make provision for the handling of internal administrative functions of the Division and for important financial problems arising out of the Medical Department's relations with lend-lease. Therefore, under the more recent reorganization plan, an Administration Branch was established with 3 sections: Correspondence and Files, Financial Research, and Financial Training. Lend-lease functions were assigned to Reimbursement and Lend-Lease Sections of the Budget Branch. The former Technical Training Section had thereby been removed from the Budget Branch and given a logical place in the Administrative Branch, and mail, filing, and research functions were properly recognized by the creation of two new sections.

During the latter months of 1944, the policies and operations of the Finance Division were reviewed. The results of this study led to the appointment of a medical officer to replace the Hospital Corps officer as Chief of Division and the establishement of a civilian position as Deputy Chief of Division.[101] Nearly a year passed, however, before an individual was found who could meet

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100. BuMed-E-LG, A3-4/EN (073-40), 22 Mar. 1944.

101. BuMed-E-BHL, A3-4/EN (073-40), 13 Jan. 1945.

the requirements for the civilian position.

The close of 1944 also witnessed an important development in the over-all direction of the Division. On 2 December SecNav instructed all bureaus, boards, and offices of the Navy Department to appoint fiscal directors. The fiscal director ofeach agency was to be the head of the principal fiscal body in the respective bureaus, boards, and offices, and was to report to both SecNav and his unit chief. SecNav supervision of the position would be through the Office of the Fiscal Director for the Navy Department. A step had thereby been taken to strengthen fiscal policies of the Navy, and on 19 December the Chief of the Finance Division was appointed Fiscal Director of BuMed.[102]

By the close of the war, the Finance Division had been given a stable base for carrying the Medical Department's fiscal burdens. Integration of divisional responsibilities and the elimination of extraneous functions, such as procurement of medical supplies, have resulted in administrative effectiveness.

J. Materiel Division

The Materiel Division is one of the three most recently established divisions of BuMed.[103] During the early part of the war, supply and equipment functions were scattered through the

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102. BuMed-E-LG, EN1/L10, 19 Dec. 1944.

103. Statistics Division, Professional Division, Materiel Division.

Finance Division, the Planning Division and naval medical supply depots. None of these agencies had a clear-cut conception of its supply activities as they related to similar activities in other administrative bodies of the Medical Department.[104] Duplication and overlapping of such activities existed in seven different functional areas. Therefore, studies were made for the purpose of correcting this highly unsatisfactory situation.

The most important study of this nature was made by the Special Assistant to the Surgeon General, who submitted his conclusions and recommendations to the Surgeon General on 30 October 1943.[105] For the purpose of centralized administrative control of supply functions, he recommended the establishment of a Materiel Division to operate as a part of BuMed but to be located at the Naval Medical Supply Depot, Brooklyn, New York. The supply functions of the Planning and Finance Divisions were recommended for transferral to the new Division, which would have cognizance of all Medical Department policies relating to medical supplies.

In order to expedite the functions of the proposed Division, the Special Assistant recommended the establishment of 5 branches and 2 staff officers: a Requirements Branch, A Procurement Branch, a Stores Control and Warehousing Branch, an Accounting Branch, an

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104. Special Assistant to Surgeon General, Survey of Medical Supply Activities, Medical Department, U. S. Navy, 30 Oct. 1943.

105. Ibid.

Administrative Branch, a Washington Office, and an Office of the Dental Advisor. The Requirements Branch was to have jurisdiction over such functions as basic policies governing supply activities, the determination of requirements, the preparation of estimates, and the development of programs for the commissioning of outfits and the distribution of supplies. The Procurement Branch was to function in the areas of specifications, purchasing, inspections, and operations of laboratories. The Stores Control and Warehousing Branch would exercise control over stores and develop policies and methods for storage, assembly, issue, shipping, and salvage of medical material. The fourth Branch, Accounting, was to maintain ledger records of expenditures, obligations, receipts and issues of medical material by the supply depots and warehouses; and the fifth branch, Administrative, was to perform the administrative duties for the Division's operations. The Washington Office was to be located in BuMed for the purposes of coordinating the functions of the Materiel Division with those of other divisions of BuMed and represent the Bureau in contacts with other government agencies in Washington. The Office of Dental Advisor was to counsel the Chief of the Division on questions of dentistry coming under the cognizance of the Division.

The recommendations of the Special Assistant were submitted to the Surgeon General, who approved them with a few minor changes, and the new Division was established by a directive of

10 November 1943.[106] The Medical Officer-in-Command, Naval Supply Depot, Brooklyn, was assigned additional duty as Chief, Material Division, and the functional organization of the Division was in accordance with the Special Assistant's recommendations.[107] An assistant chief of the Material Division and a dental advisor were assigned to the Office of the Chief of Division, and the basic work of the Division was distributed among 5 branches and 14 sections.[108] The functions of the Requirements Branch were under the cognizance of the "Monitor Sections" and the Reports and Allocations Section. The first of these sections was to assist the Chief and Assistant Chief of Division and head of the Requirements Branch in establishing materiel policies and programs, as well as preparing estimates, censoring requests and requisitions, determining time and quantity of purchases, and making recommendations to Naval Materiel Branch of items to be added to the Supply Catalog, etc. The Reports and Allocations Section was to perform statistical functions, convert unit requirements into dollar requirements, develop logistic data, censor dollar totals of budget requests from field activities, and estimate allotment requirements of ships and minor shore stations.

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106. BuMed-E-AIJ, A3-4/EN (073-40), 10 Nov. 1943.

107. BuMed-E-AIJ, A3-4/EN (073-40), 10 Nov. 1943.

108. For a summary of the history of the Materiel Division and the Naval Supply Depot, Brooklyn, see Historical Narrative of the U. S. Naval Medical Supply Depot and Materiel Division, Bureau of Medicine and Surgery, Brooklyn, New York, from their Inception to July 1, 1945.

This division of functions among these sections was later changed to a functional distribution among 3 sections.[109] A Materiel Plans-Advanced Base Section was set up to handle those functions relating to establishing basic materiel policies; obtain, through the Planning Division, operational and other logistic data necessary for requirements and planning; develop and maintain initial outfitting lists in cooperation with the Planning Division; revise, test, and direct application of standards and usage rates; and be responsible for the scheduling, serilization, control, and assembly of G Functional Components. A Products (Monitor) Section was created to perform those functions formerly assigned to the "Monitors Sections", and a Statistical Section took the place of the Reports and Allocations Section.

The Procurement Branch, in accordance with the 10 November directive, was divided functionally into 3 sections: Specifications, Purchase, and Inspection. Experience soon demonstrated the need for a fourth section, an Expediting Section.[110] The Specifications Section, which came to function as a part of the Army-Medical Procurement Agency, was to determine the materiel specifications to be included in all bids, and was to have cognizance of all other appropriate matters of materiel specifications. In operation, this Section worked in conjunction with the Products Section. A Purchase Section, when requested by the Requirements Branch, was to carry out

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109. Ibid., p. 31.

110. Ibid., p. 33.

purchasing details, maintain a file of acceptable bidders, prepare requisitions, tabulate bids, etc. The Inspection Section was to verify quantity, condition and marking of incoming materiel, make tests, and maintain the necessary laboratories. Physical, chemical, bacteriological and X-ray laboratories were used for this purpose. The Expediting Section, which was established later, was to maintain current information relative to scheduled and actual deliveries, and was to take proper action on all deliveries which might be delayed.

A Stores Control and Warehousing Branch, with 3 sections, was established in the Division. Those functions relating to the development and maintenance of records, receipts, issues, balances, etc., of materiel were under the cognizance of the Unit Stores Control Section. Such matters as forecasting withdrawals, establishing maximum and minimum quantities of stores, determining the particular depot or storehouse to which shipments were to be made, and exercising control over redistribution of supplies were to be under the jurisdiction of the Stores Location Control Section. Warehousing, with all its many problems -- stowage, assembly, issue, salvage -- was assigned to the Warehousing Section.

This organizational structure of the Stores Control and Warehousing Branch apparently did not meet the operational needs of the Branch, for there was a redistribution of functions and a change

of sectional titles at a later date.[111] In a sense, an Inventory and Stores Location Section took over many of the functions of the original Unit Stores Control and Stores Location Control Sections. A second section, Surplus Property, acquired the functions of the Stores Location Control Section insofar as they related to the redistribution and disposal of surplus property. The Warehousing Section remained intact, with the exception that no mention was made of salvage functions.

Accounting, the third branch of the Division, was divided into 3 sections by the Bufed directive. A Contracts and Vouchers Section was established to maintain records of contracts, verify contract values, check invoices, and prepare public vouchers. A Stores Ledger Section was to maintain ledger records of receipts and issues; and a General Ledger Section was to keep ledger records of all appropriational allotments, obligations and expenditures for materiel.

The Accounting Branch also underwent modifications in its functional organization. By the summer of 1945 there were 5 instead of 3 sections in the Division. The General Ledger and the Contracts, and Vouchers sections were left undisturbed, while the remaining functions of the Branch were distributed among a Tabulating Section, a Medical Stores Ledger Section, and a Non-

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111. Ibid, pp. 33-34.

Listed and Returned Stores Section.[112] The Tabulating Section served the same purposes as the former Stores Ledger Section; and the Medical Stores Ledger Section was to maintain a register of invoices issued by depots and continental storehouses, keep ledger receipts, issues, and balances of each item, calculate the average cost of items, and maintain a standard unit price list.

The fourth and last branch established by the directive was the Administrative Branch, which was composed of 3 sections. A Personnel Section was charged with the administration of civilian personnel. Mail and files were the responsibility of the Mail and Files Section, and operation and upkeep of mechanical equipment were assigned to a Maintenance Section. All these functions were later abolished upon the elimination of the Administrative Branch. Administration functions of the division were apparently integrated with similar functions of the depot.

The Dental Advisor's duties were numerous. He was to answer all inquiries relative to dental materiel and requisitions;[113] act in liaison capacity; interview dental manufacturers; maintain files; allocate critical dental materiel to activities; and be a member of three boards--the Board of Inventory for Gold and Precious Metals, the Board of Property Survey, and the Naval Materiel Board.

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112. Ibid, pp. 34-35.

113. Memo Rear Admiral A. G. Lyle, 19 Nov. 1945 (BuMed-D-HM).

Monitors were also established for cognizance of dental supplies and equipment in class 11, S11, 12 and S12.[114]

The Washington Office of the Materiel Division, under the direction of a captain, was created to coordinate the functions of the Division with those of other divisions of BuMed and was to represent the Division in its contacts with Chief BuMed and with other offices, bureaus, divisions in Washington and contiguous territory.

On 3 July 1945 there was established within the Materiel Division an Advisory Committee on post-war planning.[115] This committee was to coordinate the efforts of the Division with respect to the development of programs for the adjustment of naval medical supply activities to the post-war period. There were eight officer members of the committee.

K. Dentistry Division (Assistant for Dentistry)

Investigation of the history of the dental functions of BuMed reveals some interesting and unusual developments. In June 1942 the Division of Dentistry was composed of 4 sections.[116] By March 1943 the Division had been reorganized into 2 sections and without formal directive for a Chief Division. On 18 September 1944

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114. Ibid.

115. BuMed, QB, Serial 1467, 1A:KCM, 3 July 1945.

116. BuMed Organization Chart, 19 June 1942.

the dental functions of BuMed were assigned to a Dentistry Division composed of an Office of the Chief of Division and two sectionalized branches.[117] This arrangement lasted for little more than eight months, when the Division was reorganized and an Assistant for Dentistry was established.[118] This last step virtually eliminated the Division as such and placed the direction of dental functions under the senior dental officer, who in a sense was to act as assistant to the Bureau on dental matters.

In 1942 the Division of Dentistry was divided into 4 sections: Personnel, Professional, Materiel, and Inspection.[119] The Personnel Section had cognizance of appointments, assignments, complements, and instruction. The Professional Section had jurisdiction of matters relating to the administration of dental treatment and prothesis. Dental outfits, equipment, material, specifications, and surveys were under the direction of the Materiel Division; and the Inspection Division was charged with the responsibility of conducting inspections of dental activities.

The Dentistry Division operated within this framework until February 1943. At that time steps were taken to remove from the Division certain planning, personnel, and administrative functions.[120]

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117. BuMed-E-LG, A3-4/EN (073-40), 18 Sept. 1944.
118. BuMed-E-LG, A3-4/EN (073-40), 24 May 1945.
119. BuMed Organization Chart, 19 June 1942.
120. BuMed-E-AIJ, A3-4/EN (073-40), 8 Feb. 1943.

This meant the transferral of the duties of the Personnel Section to the Personnel Division, the assignment of the functions of the Professional Section to the Administrative Division, and the allocation of the functions of the Materiel Section to the Planning Division. One new section, Standards, was established, and the Inspections Section went undisturbed. The newly-established Section was to have cognizance of professional standards, and was to serve in an advisory capacity on all matters pertaining to dentistry.

Inspections of dental activities was of considerable concern to the Bureau. Steps were therefore taken by BuMed to bring about a closer coordination of the activities of the Dental Inspector, the District Dental Officer, and the Inspection Section. In the summer of 1944 the Dental Inspector, previously stationed at Brooklyn, was assigned to BuMed.[121] On 11 September the Surgeon General addressed a memorandum to the Special Assistant suggesting the removal of dental inspection functions from the Dental Division and placing them under the cognizance of the Dental Inspection.[122] The Dental Inspector would then be held responsible for the channeling of all reports from the District Dental Officers and would thereby be in a position to advise the Surgeon General at all times; and the duties of the Dental Inspection were implemented by directive

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121. BuMed-E-BHL, A3-4/EN (073-40), 5 Sept. 1944.

122. Surgeon General's Memo for Commander Emch, 11 Sept. 1944. (No file number).

on 18 September.[123] He was to inspect all dental activities; receive, review, and file all reports from District Dental Officers; and consult with the Surgeon General and the Chief of the Dentistry Division.

In conjunction with the establishment of the functions of the Dental Inspector went a reorganization of the Dental Division.[124] The rather nebulous setup of February 1943 was cancelled by this reorganization, which was made effective as of 18 September 1944.[125] The Division, now referred to as the "Dentistry Division", was placed on a functional level equal to that of any other division. Under the Office of the Chief of Division were 2 branches, the Dental Standards Branch and the Dental Personnel Branch. Two sections were to have cognizance of the functions of the first Branch: a Dental Policy Section was to consult with the Inspection of Dental Activities on matters of policies, standards, and practices of dental activities; a Dental Liaison Section was to maintain liaison with BuMed and other military and civilian agencies. The Dental Personnel Branch's functions were distributed between a Dental Appointment Section and a Dental Assignment Section. The first of these two sections was to have authority in the fields of appointment, commissioning, training, and discipline of dental personnel. The

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123. BuMed-E-LG, A3-4/EN (073-40), 18 Sept. 1944.

124. There is no BuMed consistency in the use of "Dental" or "Dentistry" as applied to division title.

125. BuMed-E-LG, A3-4/EN (073-40), 18 Sept. 1944.

Dental Assignment Section was to be responsible for matters relating to officer complements, assignments, transfers, and promotions. BuMed thus reversed its position in personnel administration. By assigning personnel functions to the Dentistry Division, a return was made to an earlier situation whereby the division had cognizance of its professional personnel.

This reorganization of the dental functions of the Bureau did not settle the administrative problems and professional relationships of the Division as they related to the Medical Department and BuMed. There were individuals who had long felt that the Dental Corps should be established as an independent body within the Navy Department. This view was partly expressed by a bill introduced into the Senate in March 1945 which provided for the creation of a Dentistry Division and outlined the functions of medical officers in the field.[126]

The bill was brought to the attention of the Special Assistant, who submitted comments thereon to the Surgeon General.[127] It was the belief of the Special Assistant that the proposed legislation was undesirable for the following reasons: (1) the act would make any administrative or management improvement in the

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126. Special Assistant's Memo to Chief BuMed. (BuMed-E-LG, 23 Mar. 1945.)

127. Ibid. Note: Similar legislation was eventually passed at the end of the year.

Division impossible except through congressional amendment to the bill; (2) it established an organizational structure which was inconsistent with the requirements of BuMed; (3) it created the rank of rear admiral for division chiefs, without regard to the ranks and functions of 12 other division chiefs; and (4) by giving dental officers in the field considerable independence in their relationships with medical officers, the bill would doubtless cause embarrassments.

The Surgeon General also was of the opinion that such a step would not be in the best interests of the Navy or the dental officers. In commenting on the proposed legislation, he had this to say: "Dentistry is a functionally restricted profession and in the Medical Department of the Navy holds an essential, but relative minor position as contrasted with a broad field of the health of the Navy and the care of the sick and injured."[128] However, he recognized that there were certain improvements to be made in the administration of dentistry in the Medical Department, and he believed that these improvements could be accomplished by administrative procedures and without legislation.

Measures were soon taken to achieve the aims expressed by the Surgeon General. By working in close cooperation with senior dental officers and the Special Assistant, Chief BuMed approved a

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128. BuMed-C-LET, A18-1/P5-1(023), 18 Apr. 1945.

new administrative organization for the Bureau's dental functions.[129] This provided for an Assistant for Dentistry, as described at the beginning of this section, under whom all the administrative functions would be directed, and whose functions would, in a sense, be comparable to those of the Assistant Chief of Bureau insofar as they extended to respective professional fields. All the functions and personnel were transferred to the Assistant for Dentistry, and three offices were established to assist in the expedition of dental functions. A Dental Professional Office was to consult with medical activities in order to determine dental needs and problems, and was to study, advise, and make recommendations on policies, standards, and practices. The functions of a Dental Personnel Office were to be performed by 3 sections: Dental Qualifications, Dental Training, and Dental Assignment. This was much the same sort of organization as existed under the former Dental Personnel Branch; training functions, however, were relegated to a single section.

L. Medical Statistics Division

Until recently there was no division in BuMed which functioned solely as BuMed's statistical agency. Vital statistics had been the concern of the Vital Statistics Sections of the Preventive Medicine Division. This arrangement left much to be desired. On 17 June 1940, after an intensive study of the functions and organization of

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129. BuMed-E-LG, A3-4/EN, 24 May 1945; Rear Admiral A. G. Lyle to Vice-Admiral Ross T McIntire, BuMed-PW-McW, 11 May 1945.

the Statistical Section, the head of the Preventive Medicine Division stated: "Personnel shortage and manual operation have compelled overtime work for the past several years...As constituted the organization is fatally defective due to the fact that it is an outgrowth of many years of peace time operation of uncoordinated effort."[130]

The administration of the Bureau's statistical functions continued to receive the attention of responsible individuals in BuMed. In August 1943 a study of the Vital Statistics Section of Preventive Medicine was undertaken by the Bureau in cooperation with the Office of Procurement and Material.[131] An advisory committee for this purpose had been established, and by the middle of September, 5 outstanding civilian statisticians and public health experts sat as statistical consultants to the Surgeon General.[132] A survey of all the vital statistics functions of BuMed was made shortly thereafter, with recommendations for improving the Bureau's cognizance of such functions.

It was found that the Vital Statistics Section was the second largest unit of its type in the Bureau; and its tremendous

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130. Officer-in-Charge, Preventive Medicine Division, to Chief BuMed, 17 June 1940 (EN10/A3-1(083-39)).

131. BuMed-E-AIJ, A3-4/EN (073-40), 28 Aug. 1943.

132. BuMed-E-AIJ, A3-4/EN (073-40), 23 Sept. 1943; BuMed-E-JP, A3-4/EN (073-40), 5 Feb. 1944.

volume of work was handled by two officers, eight rated men, and 122 civilians.[133] Prior to Pearl Harbor, there had been three service personnel and 60 civilians in the Section. This was an indication of the growth of the Section, but was by no means a complete picture of the expansion of BuMed's statistical functions. Similar activities were to be found in several other divisions of the Bureau. In order to provide a basis for the consolidation of these activities, the advisory committee pointed out what it believed to be the objectives of BuMed in its statistical functions: "(a) To provide quantitative knowledge of the incidence, nature and distribution of illness and disability and of other factors affecting the health of Navy personnel; (b) To assemble statistical data required for the efficient operation of medical facilities and services and distribution of medical personnel; (c) To prepare such indices as may be required in the planning and forecasting of medical needs in the Navy under various conditions of war and peace; and (d) To provide systematically for the dissemination of this information to the various units of the Navy, according to their requirements."

To handle these functions, the committee recommended that a man of recognized ability, capacity, and professional standing be appointed to direct all the statistical work of the Bureau. Furthermore, the statistical functions were of sufficient importance and magnitude to warrant the establishment of a single division.

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133. Evaluation of the Vital Statistics Functions of the Bureau of Medicine and Surgery, U. S. Navy, 17 Jan. 1944.

According to the committee's report, this division should consist of 3 sections--a Planning and Analysis Section, and Administration Section, and a Processing Section.

The committee's report was given due consideration, and division chiefs were circularized with a view towards obtaining additional data on the vital statistics requirements of the Bureau.[134] Also, an outstanding statistician was appointed head of the Vital Statistics Section. The creation of a medical statistics division did not take place, however, until the summer of the following year.

The Medical Statistics Division was established on 1 August 1945.[135] Organizationally, this Division was to consist of the Office of the Chief of Division, a Statistical Planning and Analysis Branch, a Statistical Processing Branch, and a Statistical Publications Branch. The statistical functions and personnel assigned to direct such functions in the Preventive Medicine Division were transferred to the new Division. The Statistical Planning and Analysis Branch was to be responsible for the medical statistical needs of the Medical Department; to plan and direct statistical programs; study and prepare statistical reports and publications; act as a consultative body for field activities; and to act in liaison capacities with military and civilian agencies. This Branch

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134. BuMed-E-LG, A3-4/EN (073-40), 5 May 1944.

135. BuMed-E-LG, A3-4/EN (073-40), 1 Aug. 1945.

was not sectionalized. The Statistical Processing Branch, however, was divided into 5 sections: Editing and Coding, Machine Processing, Annual Report and Monthly Report Section, Miscellaneous Reports. The first of these sections was to perform the functions of the Branch as they related to the coding and editing of NAVMED Fa. The Machine Processing Section was to prepare and process punch cards and their tabulation. The statistical aspects of the Annual Report of the Surgeon General were to be under the direction of the Annual Report Section, while the "Monthly Statistical Publication" was to be the concern of the Monthly Report Section. The fourth section, Miscellaneous Reports, was to perform the functions of the Branch as they related to the non-mechanical processing and tabulation of routine reports other than the Annual Report and the "Monthly Statistical Publication". The third Branch, Statistical Publications, was divided into an Editorial Section, a Drafting Section, and a Copy Preparation Section. The Editorial Section had cognizance of matters relating to the editing of copy and the reviewing of proofs; and the functions of preparing charts, graphs, etc., were to be exercised by the Drafting Section. The subjects of formal and final copy of statistical reports were to be handled by the Copy Preparation Section.

Medical statistical functions of BuMed have thus reached a plane of administrative efficiency. An extra work-load imposed on the Preventive Medicine Division has been removed, and centralized direction of BuMed's statistical functions have become lodged

in a single agency.

M. Publications Division

Since the beginning of World War II, the Publications Division has witnessed only minor organizational and functional changes. The principal modifications which have occurred during the period under consideration have been in the nature of unit structural expansion. In June 1942 the Division consisted of only one organizational unit. The present organization is comprised of 2 branches, 5 sections, and the library of the Surgeon General.

The Publications Division is functioning at this writing upon a plan which was provided by a directive of 18 July 1944.[136] The organization as established thereby provided for a Chief of Division, an Editorial Branch, an Information Branch, and the Library of the Surgeon General in the Office of the Chief of Division. The Editorial Branch's functions were to be divided among a Naval Medical Bulletin Section, a Hospital Corps Quarterly Section, and a Miscellaneous Publications Section. The first two sections were to be responsible for the editing and publishing of the journals indicated by section titles. The Miscellaneous Publications Section was to edit and publish all miscellaneous publications of the Medical Department, and was to maintain liaison with government agencies issuing publications which would be of interest to the

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136. BuMed-E-LG, A3-4/EN (073-40), 18 July 1944.

Medical Department. The Information Branch's functions were placed under the cognizance of an Information Service Section and a Photographic Files Section. The first of these two sections was to operate primarily as BuMed's public relations agency. It was to prepare and release special material to provide the public with information in the Medical Department, assist in the preparation of speeches, and maintain liaison with EXOS, Office of Public Relations. The Photographic and Files Section was to acquire and maintain photographs depicting the activities of the Medical Department.

It is therefore seen that the Publication Division has undergone the least amount of change of all the Bureau's divisions. But it must not be assumed that because of this the Division has not performed valuable functions or that little attention has been given to the organizational scheme of the Division. The publication of the Naval Medical Bulletin and the Hospital Corps Quarterly is of decided importance, let alone the thousands of miscellaneous items which have been issued by the Division. Public relations work speaks for itself. It has functioned exceedingly well under the able direction of a reserve officer.

N. Office of Assistant to Surgeon General for Inspections (Inspection Division)

Until recently the functions under this heading were performed by senior medical officers assigned to the Inspections Division. Prior to the war there were two inspectors, one of whom had cognizance of medical activities located on the Atlantic Coast, and

the other was responsible for like activities on the Pacific Coast. The Atlantic Coast inspector made his headquarters in BuMed, while the Pacific Coast inspector resided in the West. During the course of the war a third inspector was added for the Central United States.

The Medical Inspector was assigned his duties by BuPers upon the recommendation of BuMed.[137] His duties extended to the inspection of shore activities, and he represented, in a sense, the Surgeon General while in the field. Observations made on tours of inspection were embodied in reports, which the Inspector submitted to Chief BuMed. Copies of such reports were also transmitted to cognizant commandants and commanding officers. The reports were detailed and pertinent, and they provided information upon which BuMed could base suggestions for improvement of Medical Department functions in the field. Hospitals of course were always of great concern to the Inspector. Aside from routine comments and recommendations on hospital facilities, the Inspector also recommended the distribution of war casualties to the several Naval hospitals; and his services were utilized in the study of prospective sites for convalescent hospitals. His services were also available to commandants, and the Inspector was in no way to interfere with the duties of the District Medical Officer.

Relationships with commandants were not always without

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137. BuMed-M-MWH, L5-3/EG (062), 18 June 1943.

difficulty. This was particularly true in the case of contacts between the Commandant Ninth Naval District and the Inspector, Central United States. The Commandant felt that there was needless duplication in the functions and duties of the Inspector and the District Medical Officer.[138] Furthermore, it was the opinion of the Commandant that he exercised "coordination control" over the Inspector, and to correct what he believed confusion in command relationships he recommended that the Office of Inspector, Central United States, be disestablished. BuMed was not entirely in agreement with the Commandant's point of view, but Chief BuMed did endorse the Commandant's recommendations.[139] Also, the Commandant received the support of CNO.[140]

This unfortunate situation was partly corrected by circumscribing the authority of the Inspector. The Inspector, Central United States, was called into the Bureau; the Bureau's agent seems no long to have performed his duties as orginally prescribed, and on 25 August 1945 there was established in BuMed the Office of Assistant to the Surgeon General for Inspections.[141] The incumbent of this office is to review and make recommendations on all inspection reports of Medical Department activities, including the

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138. Com 9ND ltr. ND/P16-3(cl), ser.11-303-45, 2 Aug. 1945.

139. Ibid., End-1.

140. CNO ltr. Op30-4A1 rb, S08 21 21 ser. 562230, 25 Aug. 1945.

141. BuMed-E-LG, A3-4/EN, 24 Aug. 1945.

Marine Corps. Further, he is to effectuate through appropriate divisions or offices such recommendations as are approved by the Surgeon General, and is to maintain liaison with all BuMed divisions and offices. Much of the inspection functions devolved upon the district medical officers, who were approved from among the senior officers of the Medical Corps.

VI. Boards and Special Offices

The administrative functions of BuMed are also found in several special boards and offices. Only those of considerable importance are mentioned here.

Prior to the beginning of World War II, additions to and deletions from the Supply Catalog of the Medical Department and the evaluation of supplies and equipment were functions exercised by several divisions of BuMed and by the Naval Medical Supply Depot, Brooklyn. This often resulted in confusion. Therefore, in order to establish orderly procedures and centralized administration of such functions, the Surgeon General created the Naval Medical Materiel Board on 12 December 1942.[142] The Medical Officer in Command, NMSD, Brooklyn, was made chairman of the Board. Other members of the Board were to consist of such Medical Department personnel as the Surgeon General and the chairman should designate.

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142. Ch BuMed to Cinc[illegible], NMSD, Brooklyn, 12 Dec. 1942 (NT4-2/A3-1(112)); Historical Narrative...U. S. Naval Supply Depot...Brooklyn...to July 1, 1945, pp. 35-36.

As of 1 July 1945 the Board consisted of the following persons: the Medical Officer in Command, NMSD, Brooklyn; Chief of the Materiel Division; Assistant Chief of the Materiel Division; the Executive Officer, NMSD, Brooklyn; Head of the Procurement Branch, Materiel Division; the Monitor for Classes 2 and S2; a representative of the Marine Corps Coordination Branch, BuMed; the Dental Advisor to Chief of Materiel Division; the Monitor for Classes 1 and S1; the senior officer of the Materiel Plans-Advanced Base Section; the head of the Washington office, Materiel Division; the head of the Accounting Branch, Materiel Division; the senior officer of the Surplus Property Section; the senior officer of the Inspection Section, Materiel Division; and the Secretary. In addition to these regular members, representatives of other Navy Department bureaus and the British Admiralty participate in the deliberations of the Board.

In general, the functions of the Naval Materiel Board are to examine and pass upon drugs, chemicals, medical equipment, etc.; to perform tests and make analyses of supplies and equipment; to consult the Research Division on research methods; to classify items recommended for purchase; and to submit reports of the Board to the Surgeon General for his information and decision. From 12 December 1942 to 1 July 1945 reports on 801 items were made to BuMed.

BuMed's concern for post-war planning resulted in the establishment of another important board. This was the Post-War

Planning Board created on 13 November 1943.[143] The head of the Washington office, Material Division, was made chairman of the Board, and other members of the Board were to be nominated by the chairman and confirmed by Chief BuMed. One member was to be designated secretary, and all Bureau divisions "primarily concerned in matters to be considered by the Board" were to have representatives on the Board. The responsibilities of the Board were to extend to the development of programs for the disposition of Medical Department facilities, property, supplies and equipment, and for the correlation of this program with the over-all plans of the Navy.

BuMed's post-war planning functions seem not, however, to have been confined entirely to the Post-War Planning Board. On 29 May 1944 the General Board, Navy Department, sent a memorandum to Chief BuMed requesting the preparation of a paper which would set forth the Bureau's post-war plans. Upon the receipt of the memorandum, Chief BuMed asked division chiefs to assemble such information.[144] This was done, and a report on BuMed's post-war plans was forwarded to the General Board.

According to the records, it would appear that the Post-War Planning Board was slow in getting under way. A reorganization of the Board was effectuated on 14 July 1945 with no major changes

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143. BuMed-E-AIJ, A3-4/073-40, 13 Nov. 1943.

144. BuMed-E-LG, AW20/A16-3(112-42), 16 June 1944.

in structure or functions, and a captain (MC) was made chairman of the Board.[145] A month later the chairman reported to the Surgeon General on the status of the Board's work. He indicated that no great amount of thought had been given to post-war plans prior to Germany's surrender.[146] Since then some steps had been taken in the direction of planning; but since Medical Department activities were determined for the most part by the population served, and since the chairman did not at that time have figures on such population, certain items relating to personnel and patients had to wait for more definite information. The chairman reported, however, that some progress had been made in the curtailment of procurement by the cancellation of contracts and cut-backs on production; and a policy had been established for the disposal of overseas property on the spot.

On 20 December 1944 Chief BuMed established a Medical History Board. This Board was to consist of a chairman (captain (MC)), a secretary, and such other additional members as might be required in the fulfillment of the Board's functions.[147] The Board, through its chairman, was to advise and assist the Surgeon General on all matters relating to historical activities within the Bureau. It was also to plan, prepare, and edit an official history of the

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145. BuMed-A-EC, A3-4(073-40), 14 July 1945.

146. Memo. to Surgeon General, 17 Aug. 1945 (BuMed-Z-RLJ).

147. BuMed-E-BHL, A12-1EN(062-42), 20 Dec. 1944.

Medical Department. The records seem to indicate, however, that the Board has held few meetings, and has had little effect on the co-ordination of the professional, narrative, and administrative historical activities of BuMed. The Narrative and Administrative History programs have been under the direction of the Chief of the Administration Division, while the story of Navy Medicine has been under the independent guidance of a captain (MC).

Two BuMed offices and one committee should be mentioned in passing. On 27 November 1944 the Office of Quarantine Liaison was set up in the Bureau.[148] This office was to be responsible for all matters of quarantine in the Navy, including the organization and administration of quarantine services. It was also to function as a liaison agency with the Army and the Public Health Service. In the fall of 1945 this office was transferred to the Preventive Medicine Division.

One other office was also merged with the functions of a BuMed division. This was the Office of Rehabilitation. It had been established on 31 March 1944 as BuMed's administrative agency for directing, placing in operation, and developing programs of rehabilitation for the Navy Department.[149] The office was also to serve in an advisory capacity for suggesting procedures for

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148. BuMed-E-LG, A3-4/EN(073-40), 27 Nov. 1944. See section in this paper dealing with the Preventive Medicine Division.

149. BuMed-E-LG, P4-4/P3-2(034), 31 Mar. 1944.

shortening the convalescent periods of patients. The office existed as a single unit until August, when its functions were absorbed by the Professional Division.

On 24 April 1945 a Medical Museum Committee was created in BuMed for the purpose of gathering exhibits for the contemplated Naval Museum.[150] It was also to direct the Bureau's general museum program, and was to submit its reports and recommendations to Chief BuMed for his information.

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150. BuMed-E-LG, A12-2/EN, 24 Apr. 1945.

BIBLIOGRAPHICAL NOTE

The documentary sources on which this study is based are to be found, for the most part, in the files of BuMed. The Bureau's central files, containing thousands of letters, directives, memoranda, etc., were used to advantage, as were the files of the several divisions and the Registry of Circular letters of the Administration Division. An investigation was also made of the Surgeon General's records in the Main Navy Building. It is not to be assumed, however, that the writer studied and digested all of this vast amount of material. The factors of time and "dead-lines" did not permit such a study. But by processes of selection and sampling, a method was worked out whereby recognized canons of accuracy and completeness were met.

Oral testimony as evidence was not overlooked. This type of information, however, was not too satisfactory. Interviews often left the writer with little more than impressions of attitudes of mind. This was inescapable, since the writer was in most cases the junior officer in the interviews.

A few comments on footnoting are pertinent. In all cases an attempt was made to limit footnotes to a minimum. The subject heading of letters, directives, memorandum, etc., have not been included, since the document cited can be found by reference to division or office symbol and file number. Where special reports were used, titles and dates of release are given in full. Public documents are cited in the customary manner.

PART II ORGANIZATION AND FUNCTIONS

OF THE

NAVY MEDICAL DEPARTMENT

1939 - 1941

CHAPTER III

U. S. NAVAL HOSPITALS AND DISPENSARIES

Although the number of men in the Navy and Marine Corps during the pre-war emergency was small compared with the number at the close of the war, the years from 1939 to 1941 were ones of exceptional growth. Between these years the average annual strength of the Navy and Marine Corps increased from 149,618 to 348,926, or more than 130 percent.[1] Compared with the period from the end of the first World War to 1939, this growth was phenomenal.

The Medical Department of course underwent a concomitant expansion during these years. Since the number of persons authorized for the Medical Corps, Dental Corps, and Hospital Corps was fixed by statute at a certain ratio of the total personnel of the Navy, these three corps of the Medical Department had automatically the legal authority for recruiting the personnel necessary to care for the many thousands of men brought into the Marine Corps and the Navy. The Nurse Corps, while not governed by a fixed ratio, for all practical purposes, operated on such a basis. Between 30 June 1939, and 30 June 1941, the Medical Corps increased from 841 to 1,957; the Dental Corps increased from 255 to 511; the Hospital Corps increased from 4,267 to 10,545; and the regular Nurse Corps increased from 439

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1. Annual Report of the Surgeon General, U.S. Navy, Chief of the Bureau of Medicine and Surgery, to the Secretary of the Navy, Concerning Statistics of Diseases and Injuries in the United States Navy for the Calendar Year 1941 (Washington, 1941), p. 29; Annual Report of the Surgeon General, U. S. Navy....for the Calendar Year 1941 (Washington, 1944), p. 34.

to 524.[2]

Even in time of war, the work of the Navy Medical Department is greater ashore than afloat, and in peacetime, the proportion of work done ashore to that done afloat is higher still. During the first stages of a period of expansion, too, the proportion ashore is markedly increased temporarily, since there are many men at training facilities, and the activities of recruiting and procurement offices are expanding.

The period from 1939 to 1941 was one during which the activities of the Medical Department ashore were particularly important. Aside from the great expansion of recruiting and training, a multitude of other shore establishments were expanded in size and increased in number. Even the neutrality patrol that began in September 1939, brought greater problems to the shore facilities than to the ships. The vessels engaged in this patrol operated from section bases and stations along the coasts, and frequent visits to their bases enabled them to transfer their sick and injured to a dispensary or hospital rather than to one of the larger vessels or hospital ships.

U. S. Naval Hospitals

Of the various types of facilities for caring for the sick

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2. Annual report of the Bureau of Medicine and Surgery for the fiscal year ending 30 June 1939 (typewritten copy in general files of BuMed,), pp. 2-6.

and injured of the Navy, none was more important than naval hospitals. At least a fourth of the total Medical Department personnel was assigned to naval hospitals, and of the total number of sick days each year, more than seventy percent were passed by patients in naval hospitals.[3] All patients with serious diseases and injuries, and many patients with what civilian practitioners would consider minor diseases and injuries, were sent to hospitals. Except for a few large dispensaries and a few isolated, small dispensaries, the naval hospitals were the only shore facilities which had the personnel and equipment necessary for the diagnosis and treatment of the great majority of medical and surgical cases.

Naval hospitals underwent an expansion that corresponded with the increase of the Navy and Marine Corps. On 28 June 1939, there were 4,124 patients in naval hospitals. On 25 June 1941, there were 7,723 patients in naval hospitals.[4] Thus in a period of two years the number of patients under treatment increased 87 percent.

The largest and one of the most modern and efficient hospitals was that at San Diego, California. In 1939 an average of 59 officers, 185 enlisted men, and 50 nurses were on duty at

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3. Annual Report of the Surgeon General...Concerning Statistics of Diseases and Injuries in the United States Navy for the Calendar Year 1931, p. 3; Annual Report of the Surgeon General...Concerning Statistics of Diseases and Injuries in the United States Navy for the Calendar Year 1940, p. 3; Annual Report of the Surgeon General... Concerning Statistics of Diseases and Injuries in the United States Navy for the Calendar Year 1941, p. 4; Tabulated data on personnel distributions in "Date Book" of Finance Division.

4. Tabulated data in folio of BuMed.

San Diego; in 1941, an average of 83 officers, 444 enlisted men, and 73 nurses were on duty there. The buildings of the hospital, with two exceptions, were in good condition by the close of 1941. On a 15-acre landscaped recreational area were a golf course, tennis court, croquet courts, shuffle board court, and a horseshoe court. On the reservation there was also a swimming pool. In addition to the usual medical, surgical, and laboratory departments, there were special departments for eye, ear, nose and throat (EENT); X-ray, physical therapy; dentistry; outpatients; allergy and dermatology. The hospital, one of the most crowded during the latter phase of the pre-war expansion, received patients from the Fleet, the Naval Training Station and Naval Air Station at San Diego, and various other naval activities in Southern California.[5]

Like the San Diego Hospital, the Norfolk Hospital (Virginia) received patients from the Fleet and served numerous shore establishments of the district, including a naval training station. Like the San Diego Hospital, too, it was one of the most overcrowded Navy hospitals. Only during the slack summer season and during lulls in recruiting was the Norfolk Hospital able to take care of its patients satisfactorily. From November to April

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5. 1941 Additional Estimates as Submitted to Congress (folio in Finance Division of the Bureau of Medicine and Surgery); Annual Sanitary Reports for the years 1939, 1940, and 1941; Title II-Emergency National Defense Appropriation, Bureau of Medicine and Surgery H. R. 8438 (In Finance Division of the Bureau of Medicine and Surgery); 1940 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund (prepared statement for Congressional Committees).

increases in patients with respiratory diseases caused congestion in wards and necessitated housing patients in temporary overflow wards.[6]

The Charleston Hospital (South Carolina), smallest of the naval hospitals, was in poor condition in 1939. Few improvements were made there before the outbreak of war, for the construction of a new hospital was begun in 1940. The principal establishment served by this small hospital was the Charleston Navy Yard.[7]

At Pensacola, Florida and Washington, D. C., few improvements were made in the three-year period because of the construction of new hospitals.[8] The Pensacola Hospital, which served the mushrooming Naval Air Station, needed improvements in the buildings, many of which had been built in the first World War; the Washington Hospital on the other hand was in fairly good condition, and its efficiency did not suffer while the new hospital at Bethesda, Maryland, was being constructed.

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6. Coast Guard, and Federal Bureau of Investigation, for the Fiscal Year Ending June 30, 1940, p. 228; Emergency Supplemental Appropriation Bill for 1940. Hearings before the Subcommittee of the Committee on Appropriations, House of Representatives, Seventy-sixth Congress, Third Session, Making Supplemental Appropriations for the Military and Naval Establishments; 1941 Additional Estimates as Submitted to Congress (folio in Finance Division of Bureau of Medicine and Surgery); Annual Sanitary Reports for the years 1939, 1940, and 1941; Title II-Emergency National Defense Appropriation, Bureau of Medicine and Surgery H. R. 8438 (Finance Division, Bureau of Medicine and Surgery); 1940 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund (prepared statement for Congressional Committees).

7. Annual Sanitary Reports for the years 1939, 1940, and 1941.

8. Annual Sanitary Reports for the years 1939, 1940, and 1941.

A new hospital was commissioned at Pensacola in 1941. The new hospital was a permanent, two-story structure, the ground plan of which was shaped like a letter H with two bars instead of one. The square formed by the two bars enclosed an uncovered courtyard. The new building incorporated many new improvements in hospital constructions, such as acoustic ceilings, air-conditioned surgical suite, tile wainscoting, terrazzo-asphalt tile floors, master clock system, and indirect lighting. The forty-acre reservation, on high ground about a mile west of the central office of the air station, commanded a beautiful view of the surrounding landscape and Pensacola Bay.

Three hospitals which received most of their patients from adjacent naval training stations expanded rapidly because of the large increase in number of recruits. The Great Lakes (Illinois) and Newport (Rhode Island) Hospitals served training stations for seamen; the Parris Island Hospital (South Carolina served Marine Corps trainees. Hospitals at the training stations, perhaps even more than other hospitals, received many cases of respiratory diseases during the winter months.[9]

The hospital at Annapolis, Maryland, with an official

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9. Emergency Supplemental Appropriation Bill for 1940. Hearings.. p. 228; 1941 Additional Estimates as Submitted to Congress (folio in Finance Division, BuMed); Annual Sanitary Reports for the years 1939, 1940, and 1941; 1940 Navy Department X,Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund (prepared statement for Congressional Committees).

bed capacity of only 165 as late as mid-1941, primarily served the cadets of the Naval Academy.[10] In proportion to the size of the hospital, the staff at Annapolis was larger than any other hospital.

The Brooklyn (New York), Chelsea (Massachusetts), and Portsmouth (New Hampshire) Hospitals were among the oldest of the Navy hospitals. Many buildings of these hospitals had been built during or prior to the first World War. Through W. P. A. and P. W. A., many buildings had been repaired, but others were still in need of repair or replacement. The condition and location of the Brooklyn Hospital were so bad that the medical officer in command, in his annual sanitary reports of 1939 and 1940, recommended that the hospital be replaced by a new one.[11]

The Philadelphia (Pennsylvania) Hospital, which ranked third from the highest in official bed capacity in mid-1941, was the most modern and up-to-date naval hospital. Unlike most naval hospitals, all the wards were housed in a permanent, skyscraper type building. The entire physical plant was composed of eleven buildings, all of which were of buff brick except the green house. The equipment and internal arrangements of the hospital were also much superior to most naval hospitals. The hospital was located on a twenty-two

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10. Annual Sanitary Reports for the years 1939, 1940, and 1941.

11. First Supplemental National Defense Appropriation Bill for 1942. Hearings..pp. 336-337; "Military Medicine in New York State Army and Navy Hospitals," New York State Journal of Medicine, 15 Oct. 1941, p. 2011; Annual Sanitary Reports for the years 1939, 1940, and 1941.

acre plot. The lawn was seeded with grass; winter shrubbery and evergreens were planted around the buildings. Over a hundred trees, mostly oak and gum, were growing on the hospital grounds.[12]

On the West Coast, in addition to the San Diego Hospital, there were naval hospitals at Mare Island, California, and the Puget Sound Navy Yard, Bremerton, Washington. On 25 June 1941, the Mare Island Hospital, with an official bed capacity of 484, had 532 patients.[13] On the same day, the Puget Sound Hospital, with an official bed capacity of 308, had 246 patients.[14]

Beyond the limits of the continent there were three naval hospitals, all located on island possessions in the Pacific. Largest of these was the Pearl Harbor Hospital, which was scheduled to be replaced by a new hospital at a more desirable location. Because of rapidly expanded shore establishments and because a large part of the Pacific Fleet was based at Pearl Harbor in 1941, this hospital was very much overcrowded on the eve of war. Patients from shore establishments in the Philippines and ships of the Asiatic Fleet were sent to the Canacao Hospital, which was located to the west of the Cavite Navy Yard across Canacao Bay. Many of the 63 buildings on the hospital reservation were old wooden structures in fairly good condition. Deterioration of the wooden

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12. Annual Sanitary Reports for the years 1939, 1940, and 1941.

13. Annual Sanitary Reports for the years 1939, 1940, and 1941, and statistical information in folio of BuMed.

14. Ibid.

buildings was rapid in the Philippines because of climatic conditions and termites; to keep them in a state of satisfactory repair required a constant effort and considerable expense. In 1939, the principal needs were for adequate quarters for the staff personnel and new ward buildings for genitourinary and contagious cases. No recommendations for extensive repairs and construction were made in 1939, because of the projected independence of the Philippine Islands. The Guam Hospital, with an official bed capacity of 90 in mid-1941, was the smallest of the three overseas hospitals.[15]

Three additional hospitals were commissioned in 1941. The U. S. Naval Hospital, Quantico, Virginia, commissioned 1 July, had formerly been the Post Sick Quarters. The main hospital building and the power house remained unchanged by this conversion. New quarters for hospital corpsmen and nurses were completed and occupied, and a new isolation ward, shop building, and wing to the main hospital were under construction in 1941. At the end of the year, 86 patients were under treatment at the Quantico Hospital.

The hospitals at Jacksonville, Florida, and Corpus Christi, Texas, were built to accommodate adjoining naval air

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15. Fourth Supplemental National Defense Appropriation Bill for 1941. Hearings... pp. 328, 290; Navy Department Appropriation Bill for 1943. Hearings... 116; C. B. Camerer, The Medical Department of the Navy in the Philippines (mimeographed copy) 1941, Additional Estimates as Submitted to Congress (folio filed in Finance Division, BuMed); Annual Sanitary Reports for the years 1939 and 1940 from all three hospitals, and Annual Sanitary Report from the Pearl Harbor Hospital for year 1941.

stations. Each of these hospitals had approximately the same bed capacity -- 400 and 420 respectively. The wards in both hospitals were one-story, temporary frame buildings of standard H-type architecture. Each ward was approximately 218 feet long and 28 feet wide.[16]

Between 15 February 1939, and 31 December 1941, the bed capacity of naval hospitals, based upon the centers of beds spaced eight feet apart, increased from a total of 5,222 to 8,943. During the same period the number of patients actually under treatment increased from 4,277 to 7,618. On 15 February 1939, the percentage of beds occupied in all hospitals was 81.90; on 31 December 1941, the percentage occupied was 85.[17] The excess bed capacity thus maintained was below the 25 percent desired by the Bureau to meet any sudden emergencies, but it was a creditable showing considering the difficulties experienced during these years.[18]

The largest proportion of the increased patient load during the three years before the war were accommodated by the 18 naval hospitals already commissioned at the beginning of 1939. Additional patients were taken care of principally by the con-

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16. Annual Sanitary Reports for 1941.

17. Unless otherwise indicated, all statistical information on patients and bed capacity of naval hospitals is taken from tabulated forms on file in the Bureau of Medicine and Surgery.

18. Navy Department Appropriation Bill for 1942. Hearings... pp. 407-408, 429.

struction of temporary frame H-type ward buildings and by moving the centers of the beds closer together than the standard of eight feet. The policy of the Bureau of Medicine and Surgery was to keep the amount of new permanent construction to a minimum. Only where permanent construction was needed to withstand the weather, or at locations such as San Diego, Pearl Harbor, and Pensacola, which plans indicated would be needed by the Navy after the emergency, did the Bureau advocate the construction of permenent buildings. The temporary wooden buildings could be built much more quickly than the permanent ones, and at about half the cost. But even in the construction of temporary wooden buildings, the Bureau was inclined to move cautiously. The Surgeon General desired to avoid the problems which had been created in the first World War by rapid expansion of wooden structures. As late as 1939, many of the World War I buildings were still being used and were not suitable for the most efficient hospitalization, and required an unusually large expense for upkeep.[19]

Although the total bed capacity of naval hospitals increased almost in proportion to the total patient load, there were some

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19. Emergency Supplemental Appropriation Bill for 1940. Hearings.. p. 228; First Supplemental National Defense Appropriation Bill for 1942. Hearings...pp. 335-336; Fourth Supplemental National Defense Appropriation Bill for 1941. Hearings..p. 289; Navy Department Appropriation Bill for 1942. Hearings...pp. 403-404, 407-408, 409; 1940 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committees; Second Deficiency Appropriation Bill for 1941. Hearings...pp. 312-321: Title III F. Y. 1942. Supplemental Estimates, Medical Department, Navy-$7,500,000, Care of the Dead, Navy-$27,000, Prepared for Congressional Committees, p. 21.

areas of concentration of naval personnel where the problem of caring for the sick and injured became acute. In the fall of 1939, after the declaration of a limited emergency and after the neutrality patrol had begun operations, certain points on the Atlantic coast and in the Gulf of Mexico suddenly needed additional hospital facilities. The Norfolk Hospital, on 27 December 1939, with a bed capacity of 403, had 537 patients. To take care of the excess patients, beds had to be moved closer together and some patients were even kept in the corridors of the buildings.[20] The Charleston and Philadelphia Hospitals were also carrying at that time more patients than the authorized number of beds based on eight-foot centers. While the operations of the vessels of the neutrality patrol concentrated patients in certain places like Norfolk, the rapidly increasing number of recruits at the four naval training stations increased the number of patients at the hospitals connected with the training stations.[21]

By early 1941, naval hospitals on the West Coast and the Pacific islands were also experiencing some difficulty in

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20. Emergency Supplemental Appropriation Bill for 1940. Hearings... pp. 227-228; 1940 Navy Department X, BuMed, Appropriations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committee.

21. Emergency Supplemental Appropriation Bill for 1940. Hearings... pp. 247-249; 1940 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committees.

adding bed capacity as rapidly as patients were being received.[22] In March, the need for additional beds in the Hawaiian area and on the West Coast was critical. The bed capacity for the hospitals at San Diego, Mare Island, Puget Sound, and Pearl Harbor was 2,690; the number of patients on the sick list was 3,015. In these hospitals not only the wards but also the facilities for messing, X-ray, laboratory, pharmacy and other departments were overloaded. All available space was being used, but there were 230 patients in the San Diego area for which no hospital facilities were available, and at Pearl Harbor the hospital could not receive the number of patients requiring hospitalization. At Mare Island and Puget Sound, hospital facilities were also "taxed to the utmost."[23] In the meantime, on the Atlantic and Gulf Coasts, Brooklyn, Charleston, Chelsea, Newport, Norfolk, Pensacola, Philadelphia, and Washington, D. C., were all carrying more than the standard bed capacity.

One of the most difficult problems that arose from the rapid expansion of the hospitals was that of maintaining adequate and experienced staffs. The greatest difficulties developed in the Hospital Corps. The number of corpsmen was considered inadequate at the most of the hospitals throughout the emergency expansion period, and virtually every annual report contained complaints about the

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22. Fourth Supplemental National Defense Appropriation Bill for 1941. Hearings... pp. 228-290; Supplemental Estimates Title VII-1941, Submitted 10 Mar. 1941.

23. Supplemental Estimates Title VII-1941. Submitted 10 Mar. 1941.

rapid turnover. This turnover was recognized as unavoidable, since hospital corpsmen received part of their training at hospitals and were assigned to hospitals for their first duty in the Medical Department. Nevertheless, the overwhelming majority of naval hospitals were hampered in their work by having to utilize a great deal of men who were unfamiliar with the special duties they were called upon to perform. To rectify partially the difficulties caused by personnel turnover among corpsmen assigned to record offices, a policy of filling some of the clerical jobs with civilians was adopted. Shortages of corpsmen of the higher ratings and technicians were also experienced in the expanding hospitals. At Philadelphia, in 1939, it was pointed out that men with the rating of pharmacist's mate, third class, were needed particularly to serve as senior ward corpsmen. The Pensacola, Puget Sound, and San Diego Hospitals reported that the number of rated corpsmen was too low. Requests from naval hospitals for additional medical officers were numerous but somewhat less than for corpsmen. The main personnel problem at the hospitals, so far as the Medical Corps was concerned, related to the proper adjustment of Reservists to the medical practice in the Navy.[24]

Certain routine duties at naval hospitals were performed by civilian employees. Clerks, mechanics, laborers, launderers, and messmen were often civilians. Because the number of civilians

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24. Annual Sanitary Reports for the years 1939, 1940, and 1941.

did not always increase at the same rate as the expanding hospitals, corpsmen who were needed elsewhere had to do many jobs that could easily have been done by civilians.[25]

The rapid growth of naval hospitals during the pre-war emergency also caused some difficulties in obtaining adequate supplies and equipment.[26] In 1939 the allowances were generally adequate and supplies of good quality were delivered promptly. A few hospitals lacked sufficient storage space. The expansion of 1939 had no great effect on supplies and equipment, but a few hospitals, in their reports that year, pointed out that the sudden expansion had created needs beyond allowances. The hospitals at Charleston and Canacao reported that unusual and unforseen increases in patient loads had made the allowances based on previous estimates too small.

In 1940, most hospitals reported that supplies were adequate, but that increased allowances would be necessary in the future because of increasing patient loads. The basic allowance for the Pearl Harbor Hospital was insufficient, since estimates were made before the fleet was assigned to Hawaiian waters. This hospital

25. First Supplemental National Defense Appropriation Bill for 1942. Hearings... p. 200; Navy Department Appropriation Bill for 1940. Hearings..p. 493; Navy Department Appropriation Bill for 1941. Hearings...p. 385; Navy Department Appropriation Bill for 1942. Hearings..p. 416; Navy Department Appropriation Bill for 1942. Hearings, p. 17; 1940 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committees; Title III-F. Y. 1942. Supplemental Estimates Medical Department, Navy-$7,350,000, Care of the Dead, Navy-$27,000, Preapred for Congressional Committees, p. 6.

26. 1940 Navy Department X, Bureau of Medicine and Surgery, Approp-

also reported that delivery of equipment had been delayed while the supply depot tried to secure all items on the requisition list.

In 1941 most hospitals reported that supplies had been adequate, but as in the previous year, they pointed out that the continuous increase in patients necessitated increased allowances for the next year. A few hospitals, however, did report insufficient and delayed supplies. At Norfolk, where the demand was "unusual and unexpected," some delays and shortages occurred. The Parris Island Hospital reported that supplies were inadequate because of increased load. Corpus Christi reported that some supplies had been delayed because of rapid expansion, but that no hardship resulted. The Pearl Harbor Hospital, which had reported delays in 1940, reported that the supply depots forwarded equipment as requisitions were received, but that there were some delays in receiving medicines not on the supply table. The Jacksonville Hospital, newly commissioned in 1941, could not build up medical supplies to meet requirements, since there was no past experience upon which to base orders.

The size and location of the grounds of several hospitals were undesirable.[27] The areas of the hospital reservations

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riations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committees. The three paragraphs on supplies are based primarily on Annual Sanitary Reports for the years 1939, 1940, and 1941.

27. The generalizations made here on the locations of hospitals are based upon information in Annual Sanitary Reports for the years 1939, 1940, and 1941.

varied from a low of approximately 15 acres to a high of approximately 100 acres. At some of the older hospitals, which were situated in cities or near long-established naval establishments, the space for expansion was limited. At Annapolis another permanent building could be erected only if two temporary wards were demolished. Other hospitals were situated too close to military objectives, to undesirable industrial or residential districts, or to unsanitary surroundings. The Pearl Harbor Hospital, "located very near four major military objectives," was in danger of "hits by shells or bombs aimed at these military objectives in the case of an attack upon Pearl Harbor."[28] The Brooklyn Hospital was surrounded by "a squalid, water-front environment of dirty, ordoriferous canals and basins," decrepit commercial and tenement buildings, and markets.[29] At Canacao, P. I., the area adjacent to the reservation was unsanitary.[30] The location of the Mare Island Hospital was undesirable because of noises and odors from near-by yard industrial activities.[31]

Most ward buildings of the naval hospitals were frame, pavilion type, one-story wooden structures. Frequently the main administration building was a permanent type brick or stone

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28. Annual Sanitary Report for the year 1940.

29. Annual Sanitary Report for the year 1939.

30. Annual Sanitary Report for the years 1939 and 1940.

31. Annual Sanitary Report for the year 1939.

structure. The brick, modernistic, sky-scraper type of building was the exception for the naval hospitals. The usual hospital consisted of a number of separate buildings of one or two stories. The condition of the buildings varied a great deal from one hospital to another. Some of the older hospitals, such as those at Portsmouth, Chelsea, Brooklyn, Charleston, Pensacola, and Canacao, were in need of extensive repairs and alterations in 1939. Many of the buildings of these hospitals had been constructed prior to or during the first World War and were in poor condition. Very useful repairs had been made at some of these hospitals during the 1930's by P.W.A. and W.P.A. but much remained to be done. The Charleston and Pensacola Hospitals were in such poor condition that completely new hospitals were begun. The buildings at Philadelphia, Washington, Norfolk, Parris Island, San Diego, Puget Sound, and Pearl Harbor were in fairly good condition, and were in need of only moderate repairs and additions.[32]

The food served at naval hospitals continued to be sufficient in quantity and satisfactory in quality, in spite of the fact that the commissary departments were necessarily expanding in the same proportion as the other parts of the hospitals. The rate of increase at some of growing hospitals can be seen in a report of the San Diego Hospital, where the number fed in 1941 was

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32. Navy Department Appropriation Bill for 1940. Hearings...p. 499; Annual Sanitary Reports for 1939, 1940, and 1941.

70 percent higher than in 1940. In every hospital messing facilities had to be enlarged and at many hospitals additional mess halls were constructed. Additional civilian workers had to be recruited, and because they were not always sufficient in number, additional hospital corpsmen had to be assigned willy-nilly to the commissary departments. The equipment of the galleys and mess halls was inadequate and obsolete in some of the hospitals in 1939, and an effort to improve the old facilities had to be made at the same time that the rapid expansion took place.[33]

Up-patients and enlisted staff personnel were usually fed in cafeteria-style mess halls. Food for the wards was also prepared in a central galley, from which it was transported in containers or electrically heated carts. In some hospitals, the carts or containers were brought directly into the wards where trays were prepared and distributed. More common and more desirable was the system where diet kitchens adjoining the wards were used as a place to prepare trays. The only hospitals that reported difficulties in procuring proper foods were those outside the continental United States and the newly commissioned hospital at Corpus Christi. The hospitals at Canacao and Guam had limited supplies of fresh vegetables and milk. At Corpus Christi, trouble was encountered in securing food from local contractors when

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33. Annual Sanitary Reports for 1939, 1940, and 1941.

the hospital was first commissioned, and there was also difficulty in securing competent cooks.[34]

Laundering for most naval hospitals was done at the hospital reservations.[35] Only at small hospitals such as those at Portsmouth, Annapolis, and Charleston, and at the newly commissioned hospital at Corpus Christi was laundry done under annual contract by private concerns. At Parris Island, the laundry was done at the Post laundry. In 1939 the laundry equipment and space in the buildings was adequate in most hospitals. What with the increase of patients and staff personnel in the next two years, the capacity of the laundries was not always adequate. Civilian personnel was not always sufficient, and as in the case of the commissary departments, corpsmen had to be assigned to the laundries. The laundry at the San Diego Hospital had to discontinue its service for the medical departments of the Marine Barracks and the Naval Air Station in 1941 because of the amount of work done at the laundry. Between 1939 and 1941, much new laundry equipment was added at the hospitals at Newport, Pearl Harbor, Chelsea, Brooklyn, Norfolk, San Diego, and Puget Sound. By the close of 1941, laundry facilities were generally adequate at most hospitals, although it was clear that further expansion

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34. Annual Sanitary Reports for 1939, 1940, and 1941.

35. 1940 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committees; The generalizations on laundry facilities are based upon information obtained from Annual Sanitary Reports.

would have to take place in proportion to the expansion of the hospitals. Only at Mare Island in 1941 was the laundry reported to be "totally inadequate".

Most of the naval hospitals acquired one or two additional ambulances during the period 1939-1941. On 9 November 1940, 51 ambulances were on hand at the 18 hospitals.[36] In 1941, the number at each hospital varied from one to five, according to the size of the hospital and special local conditions. These ambulances were generally the limousine type of ambulance, instead of the heavier four-wheel drive type. The drivers for the ambulances were usually civilians, although the shortage of civilians necessitated using corpsmen for regular day duty at a few hospitals. Corpsmen were more extensively used as ambulance chauffeurs at night, as relief drivers, in emergencies, and for trips within hospital compound. Medical officers at the hospitals were universal in their agreement that civilians should be used as drivers, because they could be retained longer and, there would become more familiar with local traffic conditions, and because of the need for corpsmen in the wards and other parts of the hospitals.

The most common diseases of patients admitted in

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36. A tabulation of the number of ambulances on hand 9 Nov. 1940, at shore establishments is in the "Data Book," Finance Division, BuMed. The remainder of this paragraph is based upon information in Annual Sanitary Reports.

naval hospitals were communicable diseases such as catarrhal fever (common cold), measles, and venereal diseases. Acute gastro-intestinal diseases were not prevalent to any extent. Cases of food-poisoning were comparatively rare. In the Philippines, dengue was endemic with increase in the late summer and fall but the admission rate from that disease was low at the Canacao Hospital. Malaria was endemic near Olangapo but there was no case of malaria at the Canacao Hospital in 1939. At Guam there was a short epidemic of amebic dysentery in November 1939.[37]

The admission rate for venereal disease was comparatively high at Norfolk, Pensacola, Pearl Harbor, and Canacao.[38] The number of sick days for venereal patients in hospitals was considerably reduced during the period 1939-1941. Probably the most important factor responsible for the reduction of sick days attributable to venereal disease was chemotherapy. The use of the sulfa drugs reduced the incidence of complications and by hastening the cure prevented the accumulation of cases in the urological wards.[39] Furthermore, the treatment of gonorrhea was so simplified that many cases which formerly would

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37. The statements made in the paragraph on diseases treated in hospitals are based upon information in Annual Sanitary Reports.

38. Annual Sanitary Reports for 1939, 1940, and 1941.

39. Annual Sanitary Report from the Washington and Pearl Harbor Naval Hospitals for the year 1940.

have been sent to hospitals were treated at dispensaries or sick bays.

At Pearl Harbor, in 1941, the number of appendicitis cases was 463, an unusually high number. Few of these cases had histories of previous attacks and the hospital staff was inclined "to believe that constipation, induced by extensive cruising at sea, was the probable etiologic agency in most cases."[40] The orthopedic service at Pearl Harbor was also "extremely active" in 1941, "having as many as 154 patients at one time."[41]

Among the important therapeutic developments at naval hospitals during the pre-war emergency were: (1) increased use of chemotherapy in pneumonia, (2) greater use of collapse therapy in tuberculosis, and (3) establishment of blood banks to create reserves of typed whole blood and plasma.[42]

The dead at naval hospitals were generally prepared for burial or shipment by local morticians under annual contract with the hospitals. Most of the dead were transported to places designated by the next of kin, who arranged for final funeral ceremonies. Those bodies that were unclaimed by re-

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40. Annual Sanitary Report for 1941.

41. Annual Sanitary Report for 1941.

42. Navy Department Appropriation Bill for 1943. Hearings..., pp. 119-120; Annual Sanitary Reports from the Mare Island Hospital for 1940 and the San Diego Hospital for 1941.

latives were buried in the nearest national cemeteries or naval burial plots.[43]

The annual reports of several hospitals commented upon the large number of recently enlisted men that had to be surveyed from the service at the naval hospitals. The Norfolk Hospital reported in 1939 that the recruiting stations were failing to eliminate many of the unfit. The Parris Island Hospital, in the same year, reported that the physical condition of Marine recruits was of "a generally high standard," but that the number of surveys could probably be reduced by more careful physical examinations at the various recruiting stations. "Eye, ear, and dental defects", according to this Parris Island report of 1939, were the "principal causes for medical surveys."[44]

The Pearl Harbor Hospital, in 1941, reported that a large number of Fleet Reserves who had been recalled to active duty had been received at the hospital with "chronic complaints." The most difficult cases among the Fleet Reservists were old ulcers of the stomach or duodenum. Upon recovery, following hospital treatment and diet, they were returned to duty only to break down again and have to be surveyed.[45]

Every naval hospital was divided for purposes of speciali-

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43. Annual Sanitary Reports for 1939, 1940, and 1941.
44. Annual Sanitary Report for 1939.
45. Annual Sanitary Report.

zation into medical and surgical departments. The medical department usually took all non-surgical cases, except eye, ear, nose, and throat cases. There was, of course, a great deal of variation, from one hospital to another and from one year to another, in the efficiency of the personnel assigned to these departments as well as in the adequacy of the facilities and equipment. In general, it may be safely stated that, considering the rapid expansion taking place during these years, the functions of the medical and surgical departments were satisfactory, if not of a high order.

Most of the recommendations made in the annual sanitary reports for the improvements of the medical and surgical departments were concerned with additional ward space. Additional space was needed in most cases to carry out what was considered the proper segregation of patients. A lack of special floor space or rooms for persons with certain kinds of diseases and operations, for officers, for convalescent patients, and for examinations was probably the most persistent deficiency of the medical and surgical departments. Complaints in regard to the size or performance of the staff were rare, although several hospitals remarked upon the lack of trained hospital corpsmen for operating rooms.[46]

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46. Annual Sanitary Reports for 1939, 1940, and 1941.

The two hospitals which seemed to have the greatest difficulties in caring for surgical cases were those at Norfolk and Pearl Harbor. The operating room facilities at Norfolk were reported inadequate throughout the three years, while in 1941 the surgical wards were crowded and bed capacity taxed at all times. In 1939, the Pearl Harbor Hospital reported that the regular surgical ward was filled and an overflow of patients had to be taken care of in other wards. In 1940, the Pearl Harbor Hospital reported that surgery cases had to be transferred from surgical wards too soon after operation in order to make room for new patients, and that a second operating room was needed to handle increased cases.[47]

Eye, ear, nose, and throat cases were treated usually in a part of the hospital called the eye, ear, nose and throat department, usually abbreviated EENT. This department had the usual difficulties during the expansion. Additional space was added for the EENT wards and clinics, and as in other hospital departments, the additions did not always succeed in keeping up with the rapidly increasing number of patients. The problem of properly trained personnel did not seem to present the same difficulties in this department as in some of the other special departments, such as X-ray, laboratory, and neuropsychiatry. In general, the equipment was satisfactory. A great deal of the work

47. Annual Sanitary Reports.

in some of the EENT departments was for patients from outside the hospitals.[48]

Removal of defective tonsils of recruits before they went overseas was a policy of Great Lakes in 1939 and part of 1940. Eight hundred fifty-five tonsillectomies were performed at that hospital in 1939, and 1,093 were performed in 1940. This practice so taxed the facilities of the Great Lakes Hospital that it was abandoned in the fall of 1940. In 1941, the number of tonsillectomies at Great Lakes dropped to 75.[49]

The work of the neuropsychiatric wards of naval hospitals increased in direct proportion to the increase in the size of the Navy Only the larger naval hospitals had special neuropsychiatric departments, and whether large or small the facilities for caring for psychotic patients were generally inadequate. Although the space required for psychotics was usually not great, since most mental patients were transferred to Mare Island or Washington, the facilities for holding psychotics were nevertheless often inadequate. At Chelsea, 1939, where there was no regular closed ward, a small room containing space for three beds was converted into a locked ward.[50] At Newport, from 1939 to 1941, psychotic cases were "a major problem due to inadequate facilities."[51] At Philadelphia the observation ward was con-

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48. Annual Sanitary Reports for 1939, 1940, and 1941.

49. Annual Sanitary Report for 1939, 1940, and 1941.

50. Annual Sanitary Report for 1939.

51. Annual Annual Sanitary Reports.

structed so that the patients could not always be observed.[52] The Pensacola Hospital had "no suitable space in which to keep noisy and demented patients."[53] At Corpus Christi, newly commissioned in 1941, a twenty-eight bed ward for neuropsychiatric cases also accommodated dental patients and prisoners. The ward, not designed for prolonged treatment of psychiatric patients, became overcrowded because transfers to the Washington Naval Hospital were delayed.[54] Facilities at the Annapolis Hospital for the care and treatment of psychiatric cases, other than two quiet rooms in which patients could be safely housed until transferred, were not available in 1940 and it was the policy to send such cases promptly to Washington.[55]

At the Pearl Harbor and Canacao Hospitals in 1940, facilities and trained personnel were inadequate for the number of mental cases being transferred to those hospitals. At Pearl Harbor, violent mental patients were kept in the hospital brig, where there were three cells available. Although these cells had good light, ventilation and plumbing, and were near the office of the ward medical officer, the confinement of prisoners and mental patients in adjacent cells was recognized as undesirable. Mental patients admitted to the Pearl Harbor and Canacao Hospitals were usually sent in for observation ...

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52. Annual Sanitary Report for 1941.
53. Annual Sanitary Report for 1941.
54. Annual Sanitary Report for 1941.
55. Annual Sanitary Report.

and disposition. Many were psychotic, but most were psychoneurotics. At Canacao, this latter group increased during the closing months of 1940, following the evacuation of all dependents from the Philippines. There were many married men among both the officers and enlisted personnel who had difficulty in adjusting themselves to the changed conditions.

Since psychotic patients admitted to these two hospitals usually required prolonged study and hospitalization, those unfit for return to duty in a short time were surveyed as quickly as possible for further treatment in the United States. Because of this practice, the period of hospitalization was usually short, and facilities were adequate up until 1940. During the closing months of 1940, it became increasingly difficult to arrange transportation for mental patients. Most of the Navy ships were not equipped with locked wards or brigs in which they could be safely transported, while ships having adequate accommodations were often overcrowded and unable to provide safe transportation. For these reasons, it was necessary to retain mental patients at Canacao for periods of several months. In November 1940, the Pearl Harbor Hospital was granted permission by the Bureau of Medicine and Surgery to transfer psychotic patients to the Territorial Hospital for the Insane, Kaneohe, T. H., where there were five such patients at the end of the year.[56]

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56. Annual Sanitary Reports from the Canacao and Pearl Harbor Hospitals for 1939 and 1940, and from the Pearl Harbor Hospital for 1941.

Facilities at the Mare Island Hospital, a center for the concentration of mental patients from hospitals and ships on the Pacific coast, were overcrowded throughout the pre-war emergency. Twice a year, all except the mild cases were transferred to the Washington Hospital; of 765 persons admitted to the neuropsychiatric service in 1941, approximately 150 were transferred subsequently to Washington. Special effort was made to dispose of the mild psychotic cases, psychopaths, and psychoneurotics at Mare Island. The annual reports of 1940 and 1941 stated that authority to discharge these cases by dispatch would save a great deal of time.[57]

The Washington Hospital was a center of concentration for mental patients from naval hospitals along the Atlantic seaboard, Gulf Coast, Great Lakes, and the Mare Island Hospital. The type of cases received were border-line states, and institutional and disciplinary cases. During the year 1941, there were 575 admissions as compared with 386 during 1940 and 273 during 1939. Transfers to St. Elizabeth's Hospital increased proportionately. Three hundred ninety-five patients were transferred to that institution in 1941 as compared with 216 in 1940 and 145 in 1939. At the close of 1941, there were approximately 200 Navy and Marine Corps patients at St. Elizabeth's.[58]

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57. Annual Sanitary Reports.

58. Annual Sanitary Reports.

Only four hospitals, those at Portsmouth, Annapolis, Pensacola, and Washington, were without dental departments. Dental patients from the Portsmouth Hospital were treated at the dental office in the Navy yard dispensary. Prosthetic work, when necessary and authorized, was done for patients of the Portsmouth Hospital by the naval hospital at Chelsea. Dental service for the Washington Hospital was done by the Naval Dental School. Charleston, a small hospital, had a dental department but most of its work was done for naval personnel other than hospital patients. Not all hospital dental departments did prosthetic work. The Navy yards' dispensaries handled all prosthetic work for Mare Island and Norfolk. The complement of dental officers at naval hospitals ranged from 2 to about 5, according to the number of persons served. The number of Hospital Corps dental technicians numbered up to two times that of the dental officers. Requests were frequently made in 1940 and 1941 for additional dental officers and technicians. The equipment was generally good, and a policy of orderly replacement of dental units was in effect.[59]

Every naval hospital hospital except one had a

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59. Annual Sanitary Reports from the Portsmouth Hospital for 1939, from the Washington Hospital for 1940, and 1941, from the Charleston Hospital for 1939, from the Mare Island Hospital for 1939, and from the Norfolk Hospital for 1941.

laboratory where facilities were available for tests and procedures in clinical chemistry, hematology, serology, bacteriology and parasitology.[60] The one exception was the Washington Hospital, where the laboratory work was done by the adjoining Naval Medical School. There were some tests which several hospitals were not equipped to carry out. For example, the Annapolis and Pensacola Hospitals sent pathological specimens to the Naval Medical School for examination. In some hospitals, basal metabolism tests and electrocardiographs were handled by laboratory personnel. The hospital laboratories did not perform original experiments because of the demand upon personnel and equipment for work of practical diagnostic and therapeutic value.

The laboratories of the naval hospitals usually rendered services to naval stations and ships of their districts. At Charleston and Mare Island, in 1939 only about half of the laboratory examinations were performed for hospital patients. At Canacao, in 1939, the hospital examined stool specimens for all district naval personnel and their dependents, all food handlers,

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60. The five paragraphs on laboratories are based upon information in Annual Sanitary Reports for the years 1939, 1940, and 1941, and 1940 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committees.

and all personal servants of naval personnel.

One of the main problems of the laboratories during the period of expansion was the lack of trained personnel. An effort was made to have a full-time medical officer trained as as pathologist in charge of the laboratories. Most of the technicians in the hospital were enlisted men of the Hospital Corps. Although most of the laboratories kept several men under instruction at all times, virtually every hospital encountered difficulty in keeping enough technicians to do the increasing amount of work.

Adequate physical plants for the hospital laboratories were more easily provided than trained personnel. Additional and new equipment and arrangements were furnished the hospitals. Floor space was expanded, and ventilation and lighting were improved. By the close of 1941, despite the great amount of work being done, only a few hospitals were without adequate equipment and space. At Brooklyn and Charleston, modernization of the laboratories was held up because of prospective construction of new hospitals. At Parris Island where the number of Marine Corps recruits was greatly increasing in 1941, it was necessary to improvise an auxiliary laboratory in the mortuary for drawing blood and performing urinalyses.

X-ray and physiotherapy were frequently conducted

in one department in the naval hospitals.[61] The X-ray work done in this department was both radiographic and therapeutic. Radiographic work, which included routine fluroscopic and roentgenographic examinations, increased tremendously during the pre-war emergency. Therapy work covered the treatment of tumors, inflammatory conditions, and dermatologic conditions. Physical, helio, thermal, hydro, and short wave therapy were also employed in the physical therapy departments. Basal metabolism tests and electrocardiographic tracings were also done in this department in some naval hospitals.

The main improvement made in the X-ray departments was the replacement of equipment which was not shock-proof or which did not provide protection against excess radiation exposure. Additional floor space and better lighting were also provided for these departments.

X-ray technicians were trained at the Naval Medical Center. The problem of maintaining adequate trained technicians was a serious one for most hospitals throughout the period. Frequent transfers of technicians also handicapped the efficiency of these departments.

The out-patient departments of the naval hospitals were important, and the work done in these departments constituted

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61. The three paragraphs on X-ray and physiotherapy are based upon information in Annual Sanitary Reports for 1939, 1940, and 1941.

a large proportion of their work.[62] Services, which included gynecology, obstetrics and pediatrics, were rendered to dependents of officers and enlisted men of the Navy and Marine Corps on active duty, to the families of retired officers and enlisted men, and to retired nurses.

Civilian patients who needed hospitalization were usually cared for at designated civilian hospitals in nearby cities. The amount of work done by the out-patient departments of one of the large hospitals is illustrated by the following statistics for the San Diego Hospital for 1941:[63]

New cases	6,019
Consultations and treatments	116,103
Major operations	376
Minor operations	464
Confinements	379

A large majority of patients in naval hospitals were persons other than Marine Corps and Navy personnel on active duty. In 1939, patients not on active duty in the service--called supernumeraries officially--occupied approximately 40 percent of the total beds.[64] On 28 June 1939, out of a total of 4,124 beds

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62. Annual Sanitary Reports for 1939, 1940, and 1941; Circular letter, BuMed, 12 Feb. 1940; 1939 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department, BuMed, Care of the Dead, BuMed, Naval Hospital Fund, pp. 82-83; 1940 Statement for Appropriation Committee, pp. 95-96.

63. Annual Sanitary Report for the year 1941.

64. Emergency Supplemental Appropriation Bill for 1940. Hearings.. p. 231; Navy Department Appropriation Bill for 1939. Hearings...p. 683; Navy Department Appropriation Bill for 1942. Hearings..p. 409; Circular letter, 2 Dec. 1941.

occupied, 1,761 were occupied by supernumeraries.[65] Between 1939 and 1941, the total beds occupied by them remained approximately the same: On 27 December 1939, 1,592 out of 4,733 beds were occupied by supernumeraries; on 31 December 1941, they occupied 1,218 out of 7,700 beds. Because of the large increase in the number of beds occupied by active duty personnel, the proportion of beds occupied by supernumeraries showed a gradual decline. On 27 December 1939, they occupied 34 percent of the beds; on 1 January 1941, 25 percent; on 31 December 1941, about 16 percent.

The greatest proportion of the supernumeraries were patients hospitalized for the Veterans' Administration. Of the 1,592 beds occupied by supernumeraries on 27 December 1939, 1,017 were occupied by veterans; of 1,218 beds occupied by this group on 31 December 1941, 594 were occupied by veterans. Other supernumeraries hospitalized in naval hospitals were the Employees' Compensation Commission beneficiaries, pensioners, retired officers and enlisted men, Civilian Conservation Corps personnel, Fleet Naval Reserve personnel, and ex-enlisted personnel held after discharge.

Most of the veterans were hospitalized at Philadelphia,

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65. The statistical information on supernumeraries in naval hospitals given in this and the following paragraphs is taken from forms on file in BuMed.

Brooklyn, and Chelsea. Of 1,091 beds occupied by veterans on 28 June 1939, 932 (or 85 percent) were in these three hospitals. Other hospitals where as many as ten beds were usually occupied in 1939 and 1940 by veterans were Portsmouth, Newport, San Diego, Canacao and Pearl Harbor. On 28 June 1939, 83 percent of the total beds at Philadelphia were occupied by veterans; on 28 June 1941, approximately 63 percent of the beds were occupied by veterans.

Wherever accommodations at a naval hospital exceeded the needs of the Navy, the Surgeon General of the Medical Department was willing to hospitalize other government patients.[66] That naval hospitals could continue to care for so many supernumeraries, even in a period of great expansion, was due to the fact that conditions were acute at certain locations while at others little difficulty was experienced. Thus, the policy of the Navy Medical Department was to concentrate veterans and supernumaries in a few hospitals where there was not a great demand for beds in which to hospitalize active duty personnel. Thus it was not difficult to accommodate veterans at Philadelphia, Chelsea, and Portsmouth, N. H. On the other hand, beds at crowded hospitals like Brooklyn and San Diego were given to active duty personnel. For example, these two hospitals had 236 beds occupied by veterans on 28 June 1939, but on 31 December 1941, only 7 of their beds were occupied by veterans.

66. Navy Department Appropriation Bill for 1942. Hearings...pp. 408-409.

Mobile Base Hospitals

The Medical Department during the pre-war emergency succeeded remarkably well in maintaining a total bed capacity in excess of the total number of hospital patients. In certain localities and areas, however, the expansion of Navy and Marine Corps personnel was so sudden and so rapid that the construction of hospital buildings, even of the temporary frame type, could not possibly be accomplished rapidly enough by the Bureau of Yards and Docks. Thus, as can be clearly seen, the great problem facing the Medical Department planners was one of devising some means of establishing hospital facilities in certain locations much more rapidly than could be done with the traditional wooden, temporary buildings.

In 1940, there were two types of hospital facilities that could be used to take care of comparatively large numbers of seriously injured or ill patients in areas where stationary hospitals were absent. Afloat there were hospital ships which were designed primarily to serve the needs of the Fleet during periods of naval operations. Ashore there were field hospitals which were intended for use by expeditionary forces of the Fleet Marine Force. Neither of these types was designed to furnish hospital care for large numbers of patients within a certain area for any long period of time. Each was primarily equipped and staffed to provide care intermediate between initial and definitive treatment,

and were to a great extent but one link in the chain of evacuation from the first-aid and battle stations to stationary Navy hospitals. Both could be easily shifted from one area to another, but only the hospital ship had facilities comparable with a regular U. S. naval hospital. Neither the hospital ship nor the field hospital was adapted to perform the work of a stationary hospital for any long period of time.

Although neither the hospital ship nor the field hospital offered a solution to the problem of providing quick medical and hospital service in specific areas, both suggested the possibility of mobile, or at least, transportable hospitals. Thus, early in the year 1940, the Surgeon General of the Navy and the Bureau of Medicine and Surgery Planning Division began to study the problem of providing hospital facilities for areas in a period of time much shorter than that necessary to construct fixed hospital installations.

Before July 1940, the Surgeon General decided definitely that the Medical Department ought to experiment with some kind of prefabricated, transportable general hospital.[67] Correspondence

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67. Philip F. Ashler, "The Supply Officer with a Naval Mobile Base Hospital," Naval Medical Bulletin, (Oct. 1941), pp. 498-504; Lucius W. Johnson, "United States Naval Mobile Base

in the general files of the Bureau of Medicine and Surgery indicates that the exact nature of this projected institutional innovation was not clearly defined in the summer of 1940. Indeed, from a study of the early correspondence, one sees that

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Hospital No. 1," Naval Medical Bulletin, vol. 39, No. 4 (Oct. 1941), pp. 479-492; Thomas B. Magath, "Mobile Base Hospital No. 1, Looking in from the Outside," Naval Medical Bulletin, vol. 39, No. 4 (Oct. 1941), pp. 492-498; Wayne D. Schoonover, "United States Naval Mobile Base Hospital No. 1, From the Viewpoint of a Civil Engineer," Naval Medical Bulletin, vol. 39, No. 4 (Oct. 1941), pp. 504-506. E. C. White, "Medical Preparedness in the Navy," New York State Journal of Medicine, vol. 41 (Mar. 1, 1941), pp. 500-503; Journal of American Medical Association, vol. 115, Nos. 14-26 p. 1,379; Fifth Supplemental National Defense Appropriation Bill for 1941. Hearings...pp. 279-280; Supplemental National Defense Appropriation Bill for 1941. Hearings..p. 140; Additional Estimates, 1941, Title IV. Mr. Bell (folio in Finance Division, BuMed); Navy Department Appropriation Bill for 1942. Hearings... pp. 404, 415; First Supplemental National Defense Appropriation Bill for 1942. Hearings..pp. 203, 204; BuMed, Supplemental Estimates, Fiscal Year, 1941, Appropriation "Medical Department" - $2,000,000 (mimeographed folio in Finance Division, BuMed); Annual Sanitary Report, Naval Medical Supply Depot, Brooklyn, N. Y., for 1943. This account of the Navy's first two mobile hospitals is based upon the following sources and authorities: Annual Sanitary Reports from Mobile Base Hospital No. 1 for 1940 and 1941; Annual Sanitary Report from Mobile Hospital No. 2 for the year 1941. An extremely valuable source for the historian of the first two mobile hospitals is the correspondence in the general files of BuMed. A selection of particularly valuable documents from these files is listed below, with the file number following each item: Memorandum on Mobile Base Hospital No. 1, undated, anonymous, NH27/N9(062); Lucius W. Johnson to Luther Sheldon, 5 Nov. 1940, A16/N9(053); Report of Culebra Detail, U. S. Naval Mobile Base Hospital No. 1, With Recommendations, A16/N9(053); Commander-in-Chief, United States Atlantic Fleet to Chief of BuMed, A16/N9(053); Medical Officer in Command of Mobile Base Hospital No. 1 to Chief BuMed, 20 Jan.1941, A16/N9(053); Executive Officer of the

Bureau officials realized that clarification of the functions and organization of such a hospital could be accomplished only after experimentation and testing.

Early correspondence about the prospective hospital used the term "portable." It was not until 29 August that the official title of "U. S. Naval Mobile Base Hospital Number One" was authorized by the Secretary of the Navy. The use of the word "portable" in the early correspondence suggests that the planners were thinking of a hospital considerably less mobile than field hospitals, but which, unlike the regular hospitals of the Navy, could be assembled and organized as a unit before shipment to the area where needed. On the other hand, there are statements in some of the letters which show that a high degree of mobility was a primary objective and that they might be used to support expeditionary forces in a manner not vastly different from the field hospitals of the Fleet Marine Force.

Little time was lost in making a practical test of the idea. In the summer of 1940, the supplies, equipment, and personnel for Mobile Base Hospital Number One were procured and assembled at the Medical Supply Depot in Brooklyn, New York. The hospital was

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U. S. Naval Mobile Base Hospital No.1 to the Commanding Officer, 1 Jan. 1941, A16/N9(053); W. A. Vogelsang to Luther Sheldon, 4 Sept. 1941, NH27/N9(062); Medical Officer in Command of Mobile Base Hospital No. 2 to the Chief BuMed, 13 Dec. 1941, NH34/N9(031); Medical Officer in Command of Mobile Base Hospital No. 2 to the Chief BuMed, 21 Dec. 1941, NH34/N9(031).

transported in the closing weeks of October to Guantanamo Bay, Cuba, a center of great naval activity at that time and an area greatly in need of additional hospital facilities.

The landing, erection and operation of the first Mobile Base Hospital at Guantanamo Bay accomplished its primary objective. That is to say, from the experience of procuring and establishing this hospital, many valuable lessons were learned about the possibilities and practicality of the original idea of a transportable hospital.

The most important of the many lessons learned at Guantanamo Bay was that the facilities of a regular, general Navy hospital could not be combined with a high degree of mobility. The experiment did prove, however, that a hospital of from 300 to 500 beds could be assembled in the United States and transported across water, landed, and reassembled in a much shorter period than the traditional stationary base hospital could be built.

The second Mobile Hospital, for which procurement was begun in March 1941, profited from the innumerable problems encountered at Guantanamo Bay. Recommendations made by the commanding officer of Mobile Hospital Number One were followed in the procurement, assembly, transportation, erection, and organization of the second Mobile Base Hospital, which was landed at Pearl Harbor in November 1941.

Extensive changes in the equipment were made. Among the most important were the substitution of metal, prefabricated buildings for ward tents; a much larger proportion of electrically operated equipment; improvements in the beds used by the hospital staff. The size and weight of much equipment was altered to make it more easily transported and assembled. Revised methods of packing and marking crates and boxes were instituted so as to facilitate their location and handling after delivery at the hospital site. Many additional tools were furnished to the construction force. Some heavy equipment which had perforce been mounted on permanent foundations at Guantanamo was placed on movable frameworks.

Personnel changes, while not of the same importance as changes in the equipment, tools and buildings, were significant. The number of men of the artificer and commissary branches was increased. A supply officer, provided by the Bureau of Supplies and Accounts, was with the hospital from the beginning. The personnel was assembled, transported and subsisted in a manner quite different from that of Mobile One. Not until the material was landed and much of the work in clearing the site, erecting the buildings, and installing the equipment was completed, did the entire staff move into the hospital area. Until quarters and commissary facilities were available on the hospital site, the enlisted personnel of the Hospital Corps were

quartered and subsisted at the Pearl Harbor Hospital.

By the close of 1941, the worth of the Mobile Hospitals had already been clearly established. Invaluable lessons had been learned from the establishment of the first and second Mobile Hospitals. Furthermore, these two hospitals had proved their usefulness in a very immediate way. At Guantanamo Bay, hospital facilities for Marine Corps and Navy patients had been provided when there were no other facilities present. In July 1941, the Medical Department was able to establish a Navy hospital quickly on the island of Bermuda by moving Mobile One from Guantanamo Bay. Mobile Hospital Number Two, which had been at Pearl Harbor less than three weeks when the Japanese struck, quickly improvised enough of its equipment and facilities to care for 110 casualties.

It is small wonder that the Surgeon General of the Navy so proudly reported this most important institutional achievement when he went before the Appropriations Committee in the January following the Pearl Harbor attack;[68] or that Capt. J. H. Chambers, medical officer in command of the Mobile Base Hospital at Pearl Harbor, wrote in a progress report dated 13 Dec. 1941:

> I feel that these hospitals have now demonstrated their utility in two widely different situations and I am more than ever convinced of their value as a means of getting hospital beds into an area where needed in a minimum of time and expense.[69]

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68. Navy Department Appropriations Bill for 1943. Hearings.. p. 131.

69. In general files, BuMed, NH34/N9(031).

Air Stations

Of the Medical Department dispensaries attached to Navy shore establishments, none expanded more than those at the naval air stations.[70] A great part of the expansion of naval air stations represented the greatly expanded cadet training program. Already established training facilities were enlarged, while new stations were commissioned. Likewise, old bases were enlarged and new ones commissioned to take care of the air patrols established after the declaration of a limited emergency in 1939.

The Medical Department components of these air stations, of course, expanded concomitantly. New dispensary buildings were erected and equipped and additional personnel were assigned to them. Since most of the buildings at the air stations were of new or recent construction, they were usually in good condition and there were few cases where extensive repairs were necessary. At certain stations, from time to time, the space and bed capacity were temporarily inadequate.

The dispensaries at the air stations, like those at other shore establishments, were equipped and designed to handle only

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70. Mimeographed compilation attached to a folio in the Finance Division, BuMed, entitled: 1943 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund, Medical Department; Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committees.

The principal source of information for this section on dispensaries at air stations was the Annual Sanitary Reports, 1939-1941.

mild diseases and injuries. Usually any patient that needed prolonged hospitalization or whose treatment required special equipment or special personnel, was transferred to the nearest naval hospital. Bed patients at the dispensaries usually stayed from one to three days, seldomly more than a week. At the new air stations in the Gulf states, such as Corpus Christi and Jacksonville, newly constructed hospitals adjoined the air stations. Along the North Atlantic and the Pacific Coast the air stations were not far from long-established hospitals. It was only at isolated stations that the dispensaries were designed and equipped to carry on much of the same kind of work that was usually performed in naval hospitals. The new station dispensary at Kodiak, Alaska, commissioned 13 December 1941, was "a self sufficient 100-bed hospital unit, containing operating suite, X-ray and laboratory facilities, two wards totalling seventy beds and two private room sections totalling thirty beds."[71] This dispensary transferred to the Puget Sound Hospital "only patients who required very special treatment."[72] At Banana River, Florida, the dispensary operated independently as a 12-bed hospital unit and had facilities for dental, medical, and surgical treatments.[73]

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71. Annual Sanitary Report for 1941.

72. Ibid.

73. Annual Sanitary Report for 1940.

Civilian construction workers at the air stations received first aid, and in some cases medical and major surgical treatment from the station dispensaries. At some of the outlying and isolated stations the entire medical care for civilian construction workers was provided by the Navy Medical Department. At Argentia, Newfoundland, in 1941, 80 percent of the admissions were civilians.[74]

The presence of civilians made the control of diseases more difficult, because they were not compelled to be immunized and they provided a contact with unsanitary and infected areas outside the station proper. At Sitka, where there were approximately 600 civilians on a construction project in 1940, a policy of segregating Navy from construction personnel and limiting contact between these two groups was followed.[75]

In 1941, industrial hygiene programs were started at Corpus Christi and Pensacola as directed by the Secretary of the Navy.[76] At Norfolk, 1939, employees who were exposed to chemical or industrial diseases were examined monthly.[77] At Seattle, frequent inspections were made in an attempt to cut down occupational hazards. Regular examinations were given at the

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74. Annual Sanitary Report for 1941.

75. Annual Sanitary Report for 1940.

76. Annual Sanitary Report for 1941.

77. Annual Sanitary Report.

Seattle Air Station to men whose work was considered injurious.[78]

All naval air stations had medical officers and hospital corpsmen on duty. A few of the larger stations had dentists attached. Nurses were not generally attached to the air station dispensaries, although there were two at Kaneohe Bay in 1941. At Dutch Harbor, in 1941, three civilian nurses and a civilian doctor assisted the Navy staff. When fleet air units were attached to air stations, such as those at San Pedro, San Diego, Pearl Harbor, and Norfolk, Medical Department personnel normally attached to the fleet units were placed on temporary duty at the stations.

The personnel situation at the air stations was much better than at the naval hospitals. Complaints about the number or qualifications of medical officers and corpsmen were rare. There were, however, frequent requests for the retention of corpsmen of higher ratings.[79]

Medical service was provided more easily for the Naval Reserve aviation bases than for the air stations. The number of persons to be served was not great; the complements ranged between about 15 and 400 in 1941. Because all personnel other than aviation cadets and students lived at home, and many men were married, the venereal disease rate was exceptionally low. Injuries

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78. Annual Sanitary Report for 1941.

79. Annual Sanitary Reports.

caused by automobile and airplane accidents were small in number. The sanitary condition of the aviation bases, all of which were in the United States, was good.

The dispensaries and sick bays at the Naval Reserve aviation bases were small. At some there were no beds; at others the number of beds ranged between two and ten. These sick bays, located usually in administration buildings, barracks, or hangars, provided care for ambulatory patients, persons requiring first aid, and persons with minor ailments and injuries. Seriously ill or emergency cases were sent to naval hospitals, or to Army or civilian hospitals if there were no naval hospitals in the area. Patients who were not quartered on the base and who could be expected to recover within a few days, were sent to their homes. Although few of these bases had dental officers or dental equipment, treatment could usually be received at the nearest Navy dental office without a great deal of difficulty.[80]

Training Stations

Apprentice seamen received "boot training" at San Diego, Norfolk, Newport, and Great Lakes. The average daily strength of these four stations increased from 11,064 in 1939 to 29,020 in 1941.[81] By the close of 1941 there were a total of 801 beds

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80. Annual Sanitary Reports for 1941.

81. Annual Sanitary Reports for 1939 and 1941.

available at the dispensaries of the four training stations.[82]

Dispensaries at naval, training stations served recruits primarily, but at every station other naval and civilian personnel were served. The Norfolk station rendered medical, surgical, dental, and ambulance service for all sick on the naval operating base with the exception of the naval air station and receiving station. In 1941, three medical officers were giving their full time to dependents at Norfolk. The San Diego dispensary made all preliminary and original enlistment examinations for the Recruiting Station, San Diego, as well as numerous other physical examinations for other than active duty personnel.[83]

In 1939, facilities for the treatment of the sick were poor at Norfolk and Great Lakes.[84] At Norfolk, the medical department occupied buildings constructed in the first World War. Annual sanitary reports and reports of annual inspection by the Bureau of Medicine and Surgery from 1934 to 1940 stated that the wartime buildings were "entirely unsatisfactory and should be replaced by a central modern dispensary."[85] At Great Lakes, facilities

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82. Mimeographed compilation attached to a folio in the Finance Division, BuMed, entitled: 1943 Navy Department X, Bureau of Medicine and Surgery, Appropriations and Fund Medical Department, Navy, Care of the Dead, Navy, Naval Hospital Fund, Prepared Statement for Congressional Committees.

83. Annual Sanitary Reports.

84. Annual Sanitary Reports.

85. Annual Sanitary Report for 1940.

for the treatment of the sick were reported as "inadequate and unsatisfactory to a marked degree."[86] The main dispensary at Great Lakes was located in one of the wartime buildings, which had been recently recommissioned to take care of the increased number of recruits. It was noisy, drafty, poorly lighted, difficult to keep heated and clean, and poorly arranged inside. At Camp Barry, Great Lakes, the quarters allotted to the medical department were inadequate primarily because of limited floor space.[87]

New construction and the acquisition of additional space in some old buildings enabled the medical department to remove most of the defects existing in 1939 and to avoid or minimize difficulties during the greatly accelerated recruit training of 1940 and 1941. New and additional dispensary buildings were completed in 1940 and 1941 at Newport, Great Lakes, and San Diego.[88] At Norfolk, however, where facilities were grossly inadequate, a new dispensary building was under construction but not completed when the war began.[89]

A new two-story frame building, which afforded excellent

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86. Annual Sanitary Report for 1939.

87. Ibid.

88. Annual Sanitary Reports.

89. Annual Sanitary Report for 1941.

facilities, was commissioned at Great Lakes on 12 May 1940. On 21 March 1941, another dispensary building was commissioned. This building, which housed a 20-bed ward, diet kitchen, pharmacy, examining and dressing rooms, isolation ward, prophylaxis room, five dental offices, offices for the senior medical and dental officers and officer of the day, record office, storage space and gear locker, was assigned to care for the personnel attached to the buildings in the immediate vicinity as well as the service school and Marine barracks. On 8 May 1941, a new building, where all incoming recruits were received, was placed in commission. In this building there was a section for the medical department and a section for the dental department. The medical department space included an orthopedic room, five examining rooms, a room for psychiatric board, a small office, laboratory, locker room, officers' lavatory, X-ray room, and dark room. The dental department included seven dental cubicles, which housed complete dental outfits. There was also an office for the senior dental officer and a small waiting room for patients. By the close of 1941 the facilities for the treatment of the sick at Great Lakes were adequate except for one station camp, where a new dispensary was under construction.[90]

At Newport, a new H-type ward unit, which was connected to the main dispensary building by an enclosed, heated

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90. Annual Sanitary Reports for 1940 and 1941.

passageway, was completed in 1940. One wing of the new ward was used as Hospital Corps quarters. Extensive and much needed repairs to the old building were also made that year; the entire exterior was repaired, the interior improved, and the open porch fitted up for five additional dental units, two of which were in operation by the end of the year. The new H-type ward added 60 beds to the previous 60. During December 1940, there were two occasions when all but two beds were occupied.[91]

In 1941 facilities at Newport for treatment and nursing were strained to the utmost. By lessening the space between beds, the number of beds in the new ward was increased from 60 to 90. In December, when there were more patients than beds at times, cots had to be used for the excess. As a result of a more thorough initial neuropsychiatric examination, there was a marked increase in the number of recruits admitted to the sick list for neuropsychiatric observation at Newport. Dormitory and barracks space with a total bed capacity of 210 was temporarily assigned to the medical department for the accommodation of these patients. Before the end of the year, the construction of a new building for psychiatric patients was begun. This new building was to have three wards that could quarter a total of 120 men.[92]

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91. Annual Sanitary Report for 1940.

92. Annual Sanitary Reports for 1940 and 1941.

In 1940, at San Diego, two wooden buildings of stucco exterior were added to the station medical department. One H-type building, of 40-bed capacity, was completed and added to the dispensary in April. This new ward increased the bed capacity from 40 to 96 beds; and, except during the influenza epidemic of that year, the bed capacity at San Diego in 1940 was sufficient. The other building, an H-type dental clinic with accommodations for 20 complete dental units with waiting room, office space, bathing facilities, and a basement ample for a general storeroom, was completed in June. In 1941, the bed capacity at San Diego was increased to 275 beds by taking over two barracks equipped with double bunks.[93]

In 1939 and 1940, there were complaints about insufficient medical officers and corpsmen, but they were not nearly so widespread or serious as in 1941. Although the complement of corpsmen at the stations multiplied more than five fold, each year brought requests for large increases in the complement for the stations. In 1941, the annual reports registered complaints about insufficient typists to fill out the forms required for each incoming recruit.

Physical examinations were a major part of the work of the training station medical departments. Examinations were

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93. Annual Sanitary Reports for 1940 and 1941.

given to all recruits immediately upon their arrival, prior to graduation, and prior to discharge. The examination given to recruits upon arrival was comprehensive and thorough. In included urinalysis, X-ray of the chest, a Kahn test, and blood typing of each incoming recruit.[94]

Psychiatrists endeavored to make a short examination of every incoming recruit and to eliminate all those who were mentally, emotionally, temperamentally, or morally unfit for naval service. In accordance with directives of 2 January, 1 February, and 22 April 1941, special boards were established at the training stations to give psychiatric and psychological examinations to recruits. The boards consisted of a line officer, a medical officer of long service in the regular Navy, two psychiatrists, and one psychologist. These boards considered such cases as were referred by the neuropsychiatrists, company commanders, and other administrative authorities at the training stations, and made recommendations to the commanding officers as to their disposition.[95]

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94. "Advances in Medicine and the Medical Sciences During the Year 1941," Naval Medical Bulletin, vol. 40, No. 2 (Apr. 1942) p. 445; Navy Department Appropriation Bill for 1943. Hearings...p. 128; Title II Emergency National Defense Appropriation, Bureau of Medicine and Surgery, H. R. 8438; Hearings.. Navy Department Appropriation Bill for 1942, p. 420.

95. Robert L. Lewinski, "Psychological Services in the (Navy) Medical Department," Naval Medical Bulletin, vol. 41, No. 1 (Jan. 1943), pp. 137-138; Calvert Stein, "Neuropsychiatry in the United States Navy," Naval Medical Bulletin, vol. 41, No. 1 (Jan. 1943) pp. 142-155; C. L. Vittson, H. I. Harris,

Between 1939 and 1941, all recruits were vaccinated against small pox and inoculated against typhoid fever; and in 1941, recruits began to be inoculated against tetanus and yellow fever. From time to time, as the need developed, individuals or small groups were immunized against diphtheria, tetanus, cholera, measles, scarlet fever, and other communicable diseases.[96]

Schools

Arrangements for medical service at Navy schools varied according to the kind and size of school, and the business, institution, or kind of naval unit with which the school was associated. The Hospital Corps Schools at Norfolk and San Diego had permanent facilities for ambulatory patients only. Ships used for training Naval Reservists had only first-aid boxes aboard. Sick or injured men from these ships were taken care of at the district staff headquarters or at Navy yards. At the

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and W. A. Hunt, "Detection of the Neuropsychiatrically Unfit," Naval Medical Bulletin, vol. 40, No 2 (Apr. 1942), pp. 340-346; An Outline of Neuropsychiatric Procedures at the U. S. Naval Training Station, Newport, R. I., a mimeographed pamphlet in the General Files of BuMed contains in chapter I, "Directives Covering the Development of the Program for the Neuropsychiatric Selection of Naval Recruits," pp. 1-24.

96. "Advances in Medicine and the Medical Sciences During the Year 1941", Naval Medical Bulletin, vol. 40, No. 2 (Apr. 1942), p. 445; Emergency Supplemental Appropriation Bill for 1940. Hearings...p. 231; Fourth Supplemental National Defense Appropriation Bill for 1941. Hearings..., p. 24; First Supplemental National Defense Appropriation Bill for 1942. Hearings..., pp. 201-202; Navy Department Appropriation Bill for 1940. Hearings..p. 494; Navy Department Appropriation Bill for 1942. Hearings, p. 420. Annual Report of the

Midshipmen's School, Northwestern University, one central sick bay was located in a dormitory and the sick call was supervised by a physician representing the Northwestern University Student Health Service. Emergency dental treatment was given by the Northwestern University Dental School, while other dental treatment was provided at the Great Lakes Naval Training Station. Medical, surgical, and dental service for the Navy Service School, Dearborn, Michigan, was provided by the Ford Hospital. At Navy-owned and operated schools the dispensaries were much the same as at other shore activities of comparable size.[97]

Receiving Centers

At receiving stations and ships the turnover was greater and living quarters were perhaps worse than at any other Navy shore establishments.[98] The health at these stations and ships, nevertheless, compared favorably with other shore establishments. Catarrhal fever and venereal disease accounted

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Surgeon General, United States Navy for 1 July 1941 to 1 July 1942 (typewritten copy in general files, BuMed), p. 31; Navy Department Appropriation Bill for 1943. Hearings..p. 127; Circular Letters of the Bureau of Medicine and Surgery, 6 Aug. 1941, 13 Feb. 1941, 13 May 1941, 25 July 1941, 15 Apr. 1941, 3 Feb. 1941, 5 Aug. 1941.

97. Annual Sanitary Reports.

98. The account here of receiving stations and ships is based upon Annual Sanitary Reports.

for the greatest number of admissions. The crowded living conditions were thought to have been responsible for an increasing rate of admissions with respiratory diseases at Philadelphia and New York. Venereal diseases among personnel at the receiving stations were usually contracted either at the place from which they had been transferred, or at "red light districts" in the immediate vicinity of the receiving stations. At New York, the proportion of infections that were derived from prostitutes who lived in the vicinity of the station was estimated to range between 90 and 95 percent.

Receiving ships were stationed at two ports during the pre-war emergency. At New York, the USS SEATTLE was the only ship until the USS CAMDEN was added in November 1940. The sick bays of both of these ships were used by receiving ship personnel. In 1941, after buildings were added at South Brooklyn, two rooms ashore were used as a sick bay. One ward containing six bunks was maintained at the South Brooklyn Receiving Station.

At San Diego, until 1 April 1941, the Medical Department was aboard the receiving ship, USS RIGEL. From April until November, a separate medical department was established temporarily ashore while the new dispensary was being constructed. A new dispensary building was commissioned 17 November 1941.

At Boston and Philadelphia both the personnel and supplies for the receiving stations were provided by the Navy yards. At Norfolk, the naval station provided similar services. None of these three receiving stations had wards, and patients were sent either to the station or yard dispensaries or to the Chelsea or Norfolk Hospitals.

At San Francisco, the "Receiving Ship" was a group of shore buildings. During the year 1939, several additions and alterations were made: a four-room out-patient department was added, and the space for the dental department was increased. In December 1940, during an epidemic of influenza, space on the second deck of the main barracks was used as an auxiliary ward.

A very important part of the work of the medical departments at receiving stations and ships was the giving of inoculations and vaccinations to personnel who had not previously received them or who were in need of "booster" shots. Health records were checked systematically to discover persons who were in need of immunization.

At Boston, Philadelphia, and Norfolk, doctors and corpsmen performed duties at both the receiving stations and other activities. At Boston in 1939, one corpsman did duties at both the Navy yard dispensary and the receiving station. In 1940,

one of the corpsmen at the receiving station also did duty with the medical officer of the Inshore Patrol while two corpsmen were on duty with the district medical officer.

U. S. Naval Dispensaries and District Headquarters

The naval dispensaries at Washington, Long Beach, and San Diego, and the facilities at the several district staff headquarters provided only office consultations and treatments.[99] Navy and Marine Corps patients who required nursing care or hospitalization were sent to neighboring naval hospitals or station dispensaries. A large part of the work of these dispensaries consisted in caring for dependents. Physical examinations, for naval and civilian personnel, also constituted a very large part of their work. These dispensaries were usually housed in either city office buildings or in Navy administration buildings. Since physical examinations constituted such a large part of the work, especially at the district staff headquarters, a large proportion of the space was allotted to examination rooms. For example, of the fourteen-room suite

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99. The account of the dispensaries at Washington, Long Beach, San Diego, and several District Staff Headquarters is based upon Annual Sanitary Reports and Title III, F. Y. 1942 Supplemental Estimates, Medical Department, Navy-$7,350,000, Care of the Dead, Navy-$27,000, Prepared for Congressional Committees, 26 copies, Submitted 12 July 1941. Hearings 15 July 1941.

occupied by the medical department of the Third Naval District Staff Headquarters, in 1941, seven rooms were used exclusively as medical examining rooms.

The staffs at the dispensaries in Washington, Long Beach, San Diego, and the district staff headquarters were generally large, despite the fact that no hospital facilities were available at these places. The Long Beach dispensary, for example, had an average of 20 officers, 7 nurses, and 39 enlisted men during the year 1941. The nurses, as at other shore dispensaries, were necessary primarily in the out-patient clinics. A large number of hospital corpsmen were necessary to carry out the many physical examinations and keep the medical records for persons who made calls or were examined.

Naval Prison, Naval Home, Naval Research Laboratory, and Radio Stations

Few changes took place in the medical departments of the Naval Prison at Portsmouth, New Hampshire, and the Naval Home, Philadelphia, during the period 1939-1941.[100] At the Naval Research Laboratory, no changes occurred in 1939 and 1940, but in 1941 a compartment which was partitioned into an office, treatment room, and a pharmacy was assigned to the medical department.[101]

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100. Annual Sanitary Reports.

101. Annual Sanitary Reports.

The naval radio stations along the South Atlantic coast, in the Canal Zone, and along the Northwest Pacific coast had only limited medical facilities, since they usually had no more than twelve enlisted men and their families who might require medical or surgical attention. At the larger radio stations, a hospital corpsman was usually assigned to provide first-aid and emergency treatment for the men and their families. Only a few of the dispensaries had beds. In some of the smaller stations, especially those along the Northwest Pacific coast, not even a hospital corpsman was present, and the senior radioman had responsibility for medical care. Fortunately, through radio and telephone communication, medical advice could be obtained easily from station or yard dispensaries, naval hospitals, or Public Health Service hospitals. Although many of these stations were located in remote areas, patients could be transported fairly easily by boat or automobile either to private hospitals, Public Health Service facilities, or to some Navy Medical Department dispensary or hospital.[102]

Navy Yards

The Navy Medical Department maintained dispensaries at the eleven Navy yards during the pre-war emergency.[103] These

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102. Annual Sanitary Reports.

103. Navy Department Appropriation Bill for 1942. Hearings..pp. 418-419; F. Y. 1942 Supplemental Estimates Title VI. BuMed, Navy Department, Appropriation: Medical Department, Navy-$23,000,000. Appropriation: Care of the Dead, Navy-$500,000; Title III-F.Y. 1942. Supplemental Estimates, Medical Department,

dispensaries were similar to other dispensaries at shore establishments. They were primarily facilities for providing first aid, minor surgery, and treatment for minor illnesses; the seriously injured or ill were transferred to the nearest naval hospitals. A few of the dispensaries, such as those in Washington and Charleston, were mere aid stations and had no beds. Except for a large number of industrial accidents, the causes for admission to the sick list were about the same as at other Navy shore establishments.

Navy yard dispensaries served a much higher proportion of civilian personnel than other shore establishments. In most Navy yards, the number of industrial workers outnumbered by far the active duty Navy and Marine Corps personnel, and because of this situation, the nature of the work performed by the medical department was somewhat different from that at other shore establishments. It was because of the large number of civilian workers served that physical examinations and the prevention of industrial accidents and diseases were such important functions of Navy yard dispensaries.

Like the large stations at Norfolk and San Diego, the

Navy-$7,350,000 Care of the Dead, Navy-$27,000 Prepared for Congressional Committees, p. 23. Annual Report of the Surgeon General, United States Navy, for 1 July 1941 to 1 July 1942 (typewritten copy in general files, Bufed), p. 30.

Navy yard dispensaries rendered medical and dental service to the crews of ships. When ships without medical or dental officers were docked in the Navy yards, the crews received their treatment at the yard dispensaries. The dental departments especially were kept busy serving crews from ships that had no dental officers.

Both Navy and civilian personnel at the Navy yards increased at the same rapid rate as other shore establishments during this period, and the work for the medical department increased proportionately. The rise in the number of medical and surgical treatments for industrial personnel alone was about 42 percent at New York in the year 1939.

Expansion of facilities at Navy yard dispensaries followed a course similar to expansion at other shore establishments. Although new additions were made to the old dispensaries, the race to keep ahead of increased work-loads was always nip and tuck. One year a dispensary would report congestion and inadequate facilities. Then a new dispensary building, new equipment and additional personnel would be added. For a while perhaps the facilities would be adequate, but the increases were so rapid that the facilities would soon be inadequate once more.

At small Navy yards, the medical department usually consisted of one central dispensary. At a large Navy yard, like that at Bremerton, Washington, the facilities included a main

dispensary, a dental clinic, sick bay at the Marine Barracks, and sick bay at the receiving station. The larger Navy yards, too, established a number of sub-stations where hospital corpsmen were assigned to render first aid for men injured in industrial work. At Norfolk, in 1941, there were ten first-aid stations located in strategic positions.

Each of the four corps of the Medical Department was represented at the Navy yard dispensaries. Nurses were needed at the Navy yards primarily for the purpose of aiding in the clinics for dependents and in giving physical examinations. The number of dental officers at the Navy yards was comparatively large, because many men from ships in dock and from near-by shore activities were referred to the yard dental departments. The large number of dental officers and the large amount of work they performed necessitated comparable increase in the number of Hospital Corps dental technicians.

Physical examinations constituted a large part of the work-load of Navy yard dispensaries. At the New York Navy Yard, the number of physical examinations increased from 5,629 in 1939 to 12,151 in 1940, and to 21,447 in 1941.[104] Examinations were given to all applicants for employment at the Navy yards. Periodical examinations were also given to employees for evidence of occupa-

104. Annual Sanitary Report for 1941.

tional diseases such as silicosis, lead absorption, and luminous paint damage.

Inspections by medical officers or hospital corpsmen were made for the purpose of ascertaining both the sanitary and safety condition of the yards. Frequently the Medical Department cooperated with the Department of Safety Engineering in the inspection of shops with regard to safety, sanitation, and hygiene.

Instruction was given to civilian employees in the prevention of accidents and industrial diseases, and in first-aid treatment of injuries. In conjunction with the departments of safety engineering, the medical department participated in campaigns designed to persuade workers to make proper use of the safety devices that were provided for their protection. At Norfolk, in 1941, civilians were given instructions in first aid, and eight employees on each shift were assigned to each of the first-aid stations. At Washington, in 1941, instruction in the use of respirators and gas masks was given.

In 1941, medical officers and officers of the H-V(S) class who were specialists in the field of industrial hygiene and medicine were assigned to the Navy yards for the purpose of establishing and operating special industrial hygiene offices in the medical departments of the Navy yards. These industrial hygiene offices investigated industrial health hazards in the yards, and

made recommendations for their control. They studied cases of doubtful industrial illness to determine possible occupational origin, treated occupational illnesses, gave periodic physical examinations of personnel exposed to potential health hazards, inspected shops and grounds as to sanitation and occupational health hazards, analyzed medical statistics of injuries as a basis for accident control, and consulted with the safety engineer.[105]

Industrial Activities

At torpedo stations, ordnance plants, powder factories, and at ammunition, mine, net, clothing and supply depots, the proportion of civilians to service personnel was very high.[106] The number of civilian workers at these shore establishments did not, however, approach the number of civilian workers at the Navy yards. Whereas the number of civilian employees at the various Navy yards in 1941 ranged between approximately 8,000 and 26,000, the number at ammunition depots and ordnance plants ranged between 6,000 and 30,000. The total service personnel at these shore activities was considerably less than at the Navy yards, too. The nature of the medical service rendered at these shore activities, of

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105. Annual Sanitary Reports for 1941. "Advances in Medicine and the Medical Sciences During the Year 1941," Naval Medical Bulletin, (Apr. 1942), Vol. 40, No. 2, p. 445.

106. Title III-F.Y. 1942 Supplemental Estimates, Medical Department, Navy-$7,350,000, Care of the Dead, Navy $27,000, Prepared for Congressional Committees, 26 copies submitted 12 July 1941, p. 25. This account of the industrial type shore establishments is based upon Annual Sanitary Reports.

course, was shaped to a great extent by the large proportion of civilians to be served. The hospital beds available for brief periods of confinement were much fewer than the total personnel to be served might indicate. Many of the activities had no beds at all.

Where there were beds, the number ranged between 2 and 30 and most of these dispensaries had less than 10 beds. At many of these industrial activities there were no Navy medical officers on duty, and hospital corpsmen of high ratings or civilian doctors provided emergency and first-aid treatment.

As at the Navy yards, the medical departments at these industrial and semi-industrial activities cooperated with authorities responsible for the prevention of industrial accidents and diseases. Medical officers gave physical examinations to persons engaged in hazardous occupations to determine their physical fitness to hold their jobs. Physical examinations for the purpose of detecting incipient cases of industrial diseases were also made. Inspections were made to determine whether safety devices were available and to what extent they were being utilized properly.

In order to prevent loss of the working time and a consequent drop in production, the medical departments attempted

to reduce sick days by early detection and treatment of illness among the workers. Civilian employees who did not feel well were encouraged to report to the dispensary for consultation. Employees unable to work were sent home for further treatment by their physicians. Before returning to their jobs, employees who had recovered from illnesses were required to have their physical condition checked at the dispensary.

At small communities which were not in the immediate vicinity of a large naval hospital or dispensary, or which were poorly served by civilian doctors, medical officers assumed the responsibility of providing medical service for the families of Navy personnel. Some of the dispensaries had no facilities for out-patients and it was necessary for a medical officer to make calls by automobile.

Section and Submarine Bases

In the latter half of 1941 more than twenty section bases were established at points along the Atlantic, Gulf, and Pacific coasts, and in the Hawaiian Islands, Canal Zone, and Puerto Rico.[107] These activities functioned primarily as bases for the small vessels engaged in the Inshore Patrol and Neutrality

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107. This account of the section bases is based upon Annual Sanitary Reports and Title III-F.Y. 1942. Supplemental Estimates, Medical Department, Navy-$7,350,000, Care of the Dead, Navy--$27,000, Prepared for Congressional Committees, 26 copies Submitted 12 July 1941; Hearings 15 July 1941.

Enforcement Force. The Little Creek Section Base, which was the largest in the United States in 1941, served also as a receiving station and training center for the Armed Guard. The average complement for these section bases was about 240; the range was between about 40 and 740.

The dispensaries for most of these section bases were of course quite small. Most of the dispensaries had about five beds, one medical officer, and about three or four hospital corpsmen. Nurses and dentists were generally not assigned to these section base dispensaries. A few of the dispensaries at bases with comparatively large complements had as many as ten corpsmen and twelve beds.

The main mission of these dispensaries was to render medical service to personnel attached to the bases and to those attached to vessels of the Inshore Patrol. Some of the bases, however, rendered service for numerous other neighboring, newly established, small activities. Very little work was done for civilians, although the Newport dispensary provided emergency treatment for construction workers. Because the Little Creek Section Base was a center for receiving and training men of the Armed Guard, records were checked and physical examinations and inoculations given.

Facilities were available at the section base dispensaries for the treatment of minor injuries, mild diseases such as

catarrhal fever and tonsillitis, and cases of food poisoning. Patients with contagious and infectious diseases were moved as soon as possible to accessible naval hospitals. Seriously injured or ill persons were also sent to hospitals. Emergency cases, which could not await treatment in naval hospitals, were taken to the nearest civilian hospitals. The medical departments of the section bases, of course, inspected the sanitary condition of the bases and provided instruction in first aid, personal hygiene, and prevention of venereal disease.

In 1939, the facilities of the Pearl Harbor Submarine Base were excellent; but the dispensaries at New London and Coco Solo were both too small, housed in old buildings that needed repairs, and equipped with worn-out or obsolete apparatus, implements, and fixtures.[108] In New London, a new two-story brick and concrete building which contained an 84-bed ward was occupied in April 1941. A temporary annex to this building further increased the bed capacity at New London by 90 beds. At Coco Solo, a new 20-bed wing was placed in commission in 1940; in 1941 the bed capacity for Navy personnel was increased from a maximum of 98 to 161. The equipment for these three submarine bases was greatly improved and increased during the three year period of expansion.

Small dispensaries at the St. Thomas Submarine Base

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108. Annual Sanitary Reports for 1939.

and the Bermuda Submarine Repair Activity were set up in 1941. At St. Thomas, the sick bay was located temporarily in "a small, poorly ventilated room on the west side of the barracks."[109] All patients from the submarine base who required hospitalization were transferred to Bourne Field. A medical officer first reported to the Submarine Repair Activity on 12 August 1941. The sick bay set up there consisted of three rooms, one of which housed six hospital beds.

Navy nurses were stationed at the Coco Solo Submarine Base for the first time in 1939. Two nurses arrived in the early part of the year. These nurses were needed in the dependents' clinic. At the close of 1941 there were four Navy nurses on duty at the Coco Solo dispensary.

In addition to requiring nurses, the large family practice and out-patient service required the full time services of one medical officer. Another medical officer spent most of his time at sea with the submarines.

The hospital corpsmen at the submarine bases seem to have been above average in ability and training. The number was increased rapidly, and was generally adequate. The rate of increase can be illustrated by the Coco Solo station where the number

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109. Annual Sanitary Report for 1941.

increased from 31 in 1939 to 55 in 1941. The number at New London jumped from 28 in 1940 to 47 in 1941.

In addition to caring for the sick and injured and carrying out the routine measures for maintaining proper sanitary standards and combatting specific diseases through preventive measures, medical officers at the submarine bases carried out special examinations, tests, and studies of personnel attached to submarines. The submarines and their personnel were frequently inspected by medical officers. At the New London base in 1939, the medical officer attached to the Submarine Escape Training Tank examined 132 officers and 1,271 men. At New London in 1939, investigations were made of methods for testing auditory acuity. At Pearl Harbor in 1941, about 1,200 men were given dark adaptation tests, with results that were reported to be of "questionable value."[110]

Naval Stations and Operating Bases

The similarities of dispensaries at naval stations and bases to dispensaries at other Navy and Marine Corps shore establishments were many.[111] Like the Navy yards, a large part of their services was for the crews of ships. Like the air stations, they very often took care of the sick of air patrols and air detachments based in the area of the naval stations. Like the Navy yards,

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110. Annual Sanitary Reports.

111. This account of the naval stations is based primarily upon Annual Sanitary Reports.

a large part of their work was for civilian employees, especially for workers engaged on construction projects. Like hospitals, air stations, training stations, and Navy yards, a large proportion of their work was for dependents of naval personnel. Like Marine Corps detachments and Defense Battalions stationed on the islands of the Caribbean and Pacific, they were located in unhealthy climates and surrounded by native populations that were a constant threat of infection for service personnel. Like most dispensaries in the Caribbean area and the South Pacific, the prevention of diseases, especially malaria and venereal disease, was a major problem.

The earliest, most rapid, and greatest expansion during the pre-war emergency occurred at the two Caribbean stations. At Key West, the average number of persons, military and civilian, increased from a yearly average of 286 in 1939 to 2,443 in 1941; at Guantanamo Bay, Cuba, the military and civilian personnel at the naval station went from a yearly average of 1,115 in 1940 to 3,843 in 1941.

Facilities at Key West and Guantanamo Bay were placed under a strain very soon after the outbreak of the war in Europe in 1939.[112] Ships and planes from the neutrality

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112. Second Deficiency Appropriation Bill for 1941. Hearings.. pp. 312-321; 1941 Additional Estimates as Submitted to Congress; Title III. F. Y. 1942. Supplemental Estimates, Medical Department, Navy-$7,350,000, Care of the Dead, Navy -- $27,000, Prepared for Congressional Committees, p. 25; Annual Sanitary Reports for the Year 1939.

patrol and rapidly increasing numbers of civilian construction workers brought immediate and rapid increases in the number of persons requiring medical service. It was not until May 1940, that the dispensary at Key West was put into full operation, and before the year was over, the facilities there were woefully inadequate. Conditions at Key West were so bad in 1940 that the senior medical officer and the Commandant of the Seventh Naval District recommended either the recommissioning of the old naval hospital or the construction of a new hospital building.[113] At Guantanamo, where the Mobile Base Hospital was located in the winter of 1940-41 and the First Marine Brigade had its own sick bays, less difficulty was encountered in meeting the expansion. In 1941, the station dispensary at Guantanamo was enlarged by the construction of a two-story ward building and a one-story sick officers' quarters.

The naval stations on the Pacific islands expanded more gradually and moderately than those in the Caribbean, and few difficulties were experienced in taking care of the additional personnel. The dispensary at Olongapo, P. I., in 1940 had a normal capacity of 7 beds, which could be expanded to 17 beds

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113. Commandant of the Seventh NavalDistrict to the Chief of BuMed 4 Feb. 1941, and Senior Medical Officer to the Chief of BuMed 14 Jan. 1941, Classified files, BuMed, A1-1/N9/ND7 (410206) (SC).
The following paragraphs on the training stations and bases are based upon Annual Sanitary Reports.

during emergencies; it was centrally located in a two-story, wooden building, which had been erected in 1901 and which had been converted into a dispensary in 1922. At Tutuila, Samoa, the naval dispensary was fairly adequate until 1941. In 1941, the total bed capacity of the Samoan dispensary was raised to 36 by placing 14 beds on screened porches and by putting three rows of beds in the ward.

Dispensaries were in operation on a temporary basis at the naval stations at New Orleans and Balboa, C. Z., where extensive construction programs were underway in 1941. At New Orleans, where the building program included the construction of a new dispensary building, a temporary, nine-bed dispensary was located in a small frame building. At Balboa, the dispensary was in the station administration building. In addition to a main ward and two small rooms which could take care of about 35 bed patients, 150 beds were set up in a barracks building for use as an emergency hospital.

A well equipped and conveniently located dispensary for newly constructed aviation facilities at the Fleet Training Base, San Clemete Island, California, consisted of a five-bed ward, an operating room, examination room, dressing room, dispensary, and office. In December 1941, the medical facilities at the Fleet Training Base proper were expanded by placing a temporary dispensary in a barracks building.

At the Bermuda Operating Base, the dispensary consisted of the senior medical officer's office and a small treatment room. Patients were sent to Mobile Base Hospital No. 1 for hospitalization.

Several nurses usually served at the naval stations to assist in the care of dependents and civilian personnel. Except at the rapidly expanding stations at Key West and Guantanamo Bay, the number of hospital corpsmen was generally considered sufficient in number. The Balboa station reported an excess of men of lower ratings in 1941, while the complement for first and second class pharmacist's mates was not filled. At Key West the lower ratings were poorly trained and daily lectures and study periods were instituted. In Samoa, where the Hospital Corps complement was reported as satisfactory each year, four chief pharmacist's mates were on independent duty as district health officers; each of these chiefs was assisted by pharmacist's mates of lower ratings who served as sanitary inspectors. Four corpsmen from the naval station complement served at the Samoan Hospital.

At Guam and Samoa, where resistance to diseases was low among the natives and where sanitary and hygienic conditions were poor, several diseases were major problems. Tuberculosis and diseases transmitted by intestinal discharges were common on the islands; unsafe water supply, unsanitary methods of sewage disposal, poor general sanitation and hygiene, and prevalence of flies

created a situation favorable to the spread of these diseases. Dengue fever, the only troublesome disease borne by mosquitoes, occurred in occasional mild epidemics. Yaws, which had been fairly widespread at one time, was decreasing in incidence. Gonorrhea occurred fairly frequently among the natives, but syphilis was rare. Diseases transmitted by oral and nasal discharges were comparatively unimportant, probably because of the relative isolation of these islands. The death rate for infants under two years of age was high; low standards of living, unsanitary surroundings, unhygienic practices, and improper infant hygiene and feeding were the major obstacles to the reduction of this high rate. Leprosy was disappearing from the islands; in 1939 only one case with active lesions was discovered on the island of Guam.

The enforcement of Samoan sanitary regulations in the villages near the naval stations was not strict. Native officials, except when pressed directly and firmly by the district health officers and sanitary inspectors of the Public Health Department, showed little or no interest in enforcing the sanitary regulations. Furthermore, the existing regulations, even had they been enforced, would have failed to achieve the standards generally demanded by the Navy. The sanitary problems that were still unsolved in 1940 were many. The methods of sewage and garbage disposal, the undrained swamp areas, the pollution of the soil and streams by human excreta, faulty latrine construction, and improper marketing

of fresh foods were some obvious conditions that required improvement before debilitating and deadly diseases could be eradicated in American Samoa.

On these two islands, where conditions were so favorable to the development and spread of communicable diseases, the medical authorities relied to a great extent upon immunization and examinations to protect the service personnel at the stations. On Guam, inoculations for typhoid and vaccinations for smallpox were required for all school children. On Samoa, all personnel at the station were immunized against yellow fever and tetanus, Navy dependents were given cowpox and typhoid vaccinations, and children who attended the station school received cowpox vaccination, diphtheria toxoid, and typhoid vaccine. School children at Guam were examined periodically to detect physical defects. Food and drink handlers and barbers and beauty shop operators were required to obtain health certificates before they could work at the Guam station.

Public Health Department, American Samoa

The Public Health Department of American Samoa was supervised, partially financed and supplied, and to a great extent operated by the Navy Medical Department.[114] In 1940, there were 3

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114. This account of the Public Health Department is based upon the Annual Sanitary Report from the Public Health Department of American Samoa for the year 1940.

medical officers, 1 dental officer, 4 Navy nurses, and 26 members of the Hospital Corps assigned to the Samoan Public Health Department. In addition to these medical department personnel, native women were serving as graduate nurses at the Samoan Hospital or outlying dispensaries, or were in training as student nurses at the Samoan Hospital Training School. Native men included civilian employees, interpreters and guides, and an assistant dental practitioner and apprentice dental technician at the central dispensary.

In 1940, 612 patients were admitted to the Samoan Hospital, and the average daily patient load was about 36. Except for persons held in isolation or quarantine, patients at the hospital provided their own food and linen. Someone from the patient's family brought food and helped care for the patient. The policy of having members of the family feed and help care for the patient was necessary, since patients were not subsisted by the Island government. The presence of one or more members of the family at all times, however, seriously interfered with the proper care and treatment of the patients.

By the close of 1940, 108 nurses had graduated from the Samoan Hospital Training School. The Samoan Hospital Training School had gained the reputation for being the highest school for women in Samoa, and rather than having to offer special inducements

in order to recruit students, the school usually had more applicants than vacancies. An experimental class for male nurses was discontinued in July 1940, after it was found to be impracticable.

The dental officer of the naval station, who was also a member of the Public Health Department of American Samoa, served the native and civilian population of American Samoa. In addition to the dental officer, there was one Hospital Corps dental technician, a native boy who was undergoing dental training, and a trained Samoan technician. A large part of the work for the natives was performed by the Samoan technician.

During the year 1939 only 702 natives appeared for dental treatment at the naval station dental office, and an additional 81 patients were treated elsewhere by the Samoan dental practitioner. Several factors were responsible for the fact that such a small proportion of the total population received dental care. The dental office at the station was inaccessible to persons who lived on the outlying islands, the dental officer was unable to care for more native Samoans without additional help, many Samoans still depended upon the "aitu" doctor for dental care, and they usually reported for treatment only when they were suffering severe pain. Most of the Samoans who received dental treatment lived in the vicinity of the naval station. These people had acquired the habit of going to the station when they needed dental treatment and no longer depended upon the Samoan doctor.

The work done in the outlying dispensaries and villages by district health officers, sanitary inspectors, and graduate Samoan nurses was primarily responsible for whatever improvements that were being made in the health of American Samoa.

Yaws, trachoma, intestinal worms, filariasis, and tuberculosis were the major health problems. Only in the mass treatment of yaws and trachoma was lasting and measurable progress being made. Attempts to educate the natives to keep themselves hygienic and their surroundings sanitary brought few results. Only when the natives could clearly and directly see the advantages of modern medical practice, such as in the treatment of yaws and trachoma, did they cooperate willingly. Natives rarely refused or evaded treatment for those two diseases. In all districts (exclusive of the Samoan Hospital) a total of 9,390 injections of neoarsphenamine and 10,959 injections of bismuth for yaws and 105,937 treatments for trachoma and chronic conjunctivitis were administered in 1940. In all villages the people were urged to take the treatment for worms at least twice a year; in 1940, 6,451 such treatments were given.

Instruction in hygiene and sanitation was given by the Public Health Department. Public health officers lectured to teachers attending the teachers' institute. Native medical practitioners and sanitary inspectors gave lectures in the Samoan

language to school children. The lectures to the children were supplemented by mimeographed notes which each child took home with him. Articles on the communicable diseases and sanitation were printed in a monthly newspaper.

Except for teaching hygiene and sanitation to the natives, the Public Health Department did little in the control of tuberculosis and mosquito-borne diseases. The educational program of the Public Health Department had almost no effect on these two problems. Efforts to teach the natives to isolate persons with infectious diseases in their houses was virtually futile. Without the legal authority, facilities, or funds to isolate tuberculous Samoans from their families and provide them with hospitalization or sanitarium care, the medical authorities could make little progress in wiping out tuberculosis. Systematic mosquito control could not be carried out because of limited funds, limited personnel, and most important, because of the apathy of the native Samoans.

Sanitary conditions in American Samoa remained far below the standards maintained in the United States or at overseas stations of the Navy. Insufficient Navy personnel, a lack of trained native nurses and technicians, insufficient funds, lack of cooperation from native Samoans, continuation of the policy of preserving native customs which often obstructed the practices of modern medical science, the low standard of living of the great

majority of native Samoans--these were a few of the obstacles that the Public Health Department encountered when it attempted to fight disease by means other than actual treatment and nursing care.

Naval Academy

The standards which the medical department attempted to maintain at the Naval Academy were the highest for any shore establishment.[115] The staff of medical and dental officers, nurses, and hospital corpsmen was large, and all personnel were selected with special care. Eye specialists and flight surgeons assisted in giving the rigid physical examinations. An EENT specialist was assigned to duty at sick quarters, with additional duty with dependent patients. Three Navy nurses were on duty in 1939; one was an electrotherapy technician and two were assistants to the medical officers who took care of dependents. Among the 55 hospital corpsmen there in 1939, there were dental, pharmacy, X-ray, aviation, electrotherapy, and laboratory technicians.

No effort was spared to keep the midshipmen physically fit. To serve the activities under the Department of Physical Training, a medical officer and from four to six hospital corpsmen

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115. This account of the Naval Academy is based upon Annual Sanitary Reports for 1939, 1940, and 1941.

were assigned to the main athletic building. First-aid stations were established in dressing rooms for various and scattered outdoor sports, and a hospital corpsman was on duty whenever a sport was being played. All sports involving bodily contact were attended by a medical officer. A great deal of protective equipment, materials, and devices, such as elastic knee braces, sponge rubber, special elastic adhesive bandages, concentrated dextrose, diathermy machines, and ultraviolet lamps, were used by athletes.

A program for correcting defective posture was carried on by the medical group affiliated with the Department of Physical Training. Midshipmen who had defective postures were placed on a special squad and exercised four days each week by an instructor; and midshipmen who continued to have poor postural or slouchy habits because of carelessness were required to take extra exercise in a disciplinary squad.

Efforts to prevent disease were methodical and comprehensive. All midshipmen, of course, were immunized against typhoid, smallpox, and tetanus. Lectures on hygiene were given to incoming plebes during the summer. All civilian employees were examined monthly, and all enlisted mess attendants who handled food were examined weekly. Employees who returned from sick leave were required to be examined by a medical officer. Food supplies were inspected upon delivery, and inspections were

made to insure that meals were properly prepared and cooked. Persons who handled food were required to wear rubber gloves and to wash their hands with antiseptic solutions before entering the galley or pantries. All equipment was sterilized before using.

Every phase of the Naval Academy dairy was thoroughly supervised and inspected so as to maintain impeccable sanitary conditions. Cattle of the dairy were tested for tuberculosis and contagious abortion; all milkers and milk handlers were examined monthly by medical officers, and all new employees were examined before starting to work. Water used by the dairy was tested by Naval Academy chemists, and the results of the tests were forwarded to the senior medical officer. Insecticide sprayers were used to eliminate flies; all buildings were screened, and garbage was collected daily from enclosed cans. A medical officer inspected the galley, mess facilities, food storage, living quarters, and, indeed, the entire dairy.

CHAPTER IV

MARINE CORPS

The Navy Medical Department provided medical service for the Marine Corps. There were two main types of units served by the Navy Medical Department. First, there were dispensaries located at Marine Corps posts and bases; these dispensaries were essentially the same as dispensaries at naval stations and other establishments. Secondly, there were medical and dental officers and hospital corpsmen assigned to units of the Fleet Marine Force, which was that part of the Marine Corps organized and equipped to constitute a striking force under the Chief of the United States Fleet. Between 1939 and 1941, the Fleet Marine Force units which had medical sections included divisions, brigades, defense battalions, base air detachments, and aircraft wings.

Posts, Bases and Barracks

Dispensaries at Marine Corps posts, bases, and barracks within the United States differed very little from dispensaries at Navy shore establishments of comparable size. Diseases at these Marine Corps activities in the continental United States were similar to those in Navy stations; and like the Navy stations, these dispensaries made no attempt to give more than routine treatment to mild diseases and emergency treatment to serious illnesses. All cases requiring prolonged hospitalization or special care were transferred to the nearest naval hospitals.

Of the Marine Corps dispensaries in the United States in 1941, those at Quantico, Parris Island, and San Diego served the largest number of persons. The average daily strength in 1941 was 9,363 at San Diego, 5,307 at Quantico, and 3,444 at Parris Island.[1]

In 1939, the facilities of the Marine Corps Base at San Diego seem to have been less adequate than those at Quantico or Parris Island. The main dispensary at San Diego was "hopelessly behind the needs of the post."[2] Although designed for a complement of about 1,500, there were as many as 5,500 actually at the base during the year.[3] No significant additions were made to the base dispensary in 1939. In 1940, a new dispensary building was completed and equipped, and in 1941 an addition to the base dispensary was placed in operation. Despite these additions, the recruit depot dispensary lacked sufficient space to care for the greatly increased number of recruits arriving at the San Diego base in 1941.[4]

At Parris Island, the post dispensary, the dental dispensary, and a small sick bay at the rifle range provided

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1. Annual Sanitary Reports.
2. Annual Sanitary Report for 1939.
3. Annual Sanitary Report for 1939.
4. Annual Sanitary Reports for 1940 and 1941.

ample facilities in 1939 and 1940. In 1941 these facilities were "barely adequate," but at the close of the year a new medical department building was almost completed.[5]

Facilities were expanded at Quantico in 1940 by the completion of new sick quarters which accommodated between 131 and 184 patients. On 1 July 1941, the post sick quarters became the U. S. Naval Hospital, Quantico, Virginia. The post dispensary at the close of 1941 was well equipped and adequate except during periods of maximum loads.[6]

The dispensaries at Marine Corps detachments and barracks outside the continental United States varied a great deal. Most of them were small. The dispensary for the Marine detachment, American Embassy, Peiping, China, was in good condition, convenient, and the number of beds was sufficient.[7] At Tientsin, China, the dispensary for the detachment was located on the second floor of the former Army hospital building.[8] At Kodiak, Alaska, in 1940, the dispensary was assigned space in the construction constractor's hospital building.[9] The dispensaries in Puerto Rico, the Virgin Islands, and the British Islands in the Caribbean

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5. Annual Sanitary Reports for 1939, 1940, and 1941.
6. Annual Sanitary Reports for 1939, 1940, and 1941.
7. Annual Sanitary Reports for 1939 and 1940.
8. Annual Sanitary Reports for 1939 and 1940.
9. Annual Sanitary Report.

and the Atlantic were frequently primitive until new dispensary buildings were completed. At the Marine Barracks, Vieques Island, Puerto Rico, a part of the mess hall porch was used by the dispensary in 1941.[10] At Bermuda the sick bay for the Marine barracks was in a portable wooden building.[11] At Jamaica, the dispensary for the Marine detachment was in a hospital tent.[12]

At St. Lucia and Antigua, in the Lesser Antilles, the sick bays were kept in tents until moved into the batchelor officers' quarters.[13] At Georgetown, British Guiana, the dispensary was in a tent and was equipped to do only minor surgery and routine analyses.[14]

Medical treatment for the Fourth Marine Regiment at Shanghai, China, during 1939 and 1940, was provided by three battalion dispensaries and the regimental hospital. All bed patients for the regiment were cared for at the regimental hospital. During the year 1940, 1,618 patients were hospitalized in this hospital; 250 of these cases were received from units of the Asiatic Fleet. The daily census during the closing three months of 1939 and 1940 averaged about 63.[15]

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10. Annual Sanitary Report for 1941.
11. Annual Sanitary Report.
12. Annual Sanitary Report for 1941.
13. Annual Sanitary Reports for 1941.
14. Annual Sanitary Reports for 1941.
15. Annual Sanitary Reports.

Medical department personnel proved sufficient in number, training and experience at most of the post and base dispensaries.[16] Dental officers were attached only at the largest posts and bases in the United States. When units of the Fleet Marine Force were stationed at the posts and bases, the medical complements of these units very often served on duty at the dispensaries. At the Marine dispensaries on the British Islands the medical department complement usually included one medical officer and from one to four members of the Hospital Corps. Because of the small number of men at these isolated dipensaries, versatile abilities among the corpsmen were required. Corpsmen who were capable of doing both laboratory and clerical work were especially needed at outlying posts.

The quantity of supplies for Marine Corps dispensaries was generally satisfactory throughout the emergency.[17] Complaints about supplies in the annual sanitary reports were rare. As in every other Navy and Marine Corps medical department establishment, the allowances were increased yearly; but these allowances seemed to have kept ahead of the increased personnel at the Marine Corps posts and bases more successfully than at Navy shore establishments. Several Marine Corps dispensaries received their supplies from near-by naval hospitals or larger dispensaries. Some of the

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16. Annual Sanitary Reports.

17. Annual Sanitary Reports.

dispensaries on the Atlantic and Caribbean island bases used field equipment and supplies when they first began operations.

Living conditions for the Marines and the surroundings of posts and bases were often more adverse to good health than at similar Navy shore establishments. Both at the training centers in the United States and at the small island detachments, many men lived in tents or in primitive wooden structures. The problem of keeping these places clean and properly heated was ever present. Furthermore, both the continental posts and bases and the outlying detachments were often located in low, swampy country that was poorly drained and mosquito ridden. In China and the West Indies, venereal disease prevention was a great problem. Food was potentially a greater source of diseases and disorders because the cooking and serving of food were frequently done in tents or in open. The civilian population, especially that of the West Indian Islands and China, constituted another threat to the health of the Marine detachments.[18]

Because of these adverse conditions, attention to sanitation and hygiene and to all the other preventive measures was extremely important. One of the most important programs for disease prevention at the Marine Corps posts, bases, barracks, and detachments was that of malarial control.[19] At Quantico, Parris

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18. Annual Sanitary Reports.

19. Annual Sanitary Reports.

Island, and San Diego mosquito breeding areas were reduced in size and number by means of dredging, draining, and fill-in operations.[20] At Vieques Island, Puerto Rico, 1941, where the tents were poorly protected against mosquitoes, control measures included the oiling of water periodically, rechanneling of streams, and clearing of vegetation.[21] At Jamaica, 1941, mosquitoes were reported to be present, but no actual breeding places were found after oiling, filling, and spraying were started.[22] At St. Lucia, where there was a great deal of malaria, oiling with kerosene and crankcase oil and dusting with Paris green were the principal control measures employed.[23]

There were diseases other than malaria which were not general but which constituted problems at certain locations. At Parris Island and Shanghai, China, typhus fever was endemic, and efforts had to be made to eradicate rats by trapping and poisoning.[24] Cases of athlete's foot and other fungus diseases were comparatively high at St. Lucia and Antigua in 1941, and measures had to be taken to combat them. It was thought that

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20. Annual Sanitary Reports.

21. Annual Sanitary Reports.

22. Annual Sanitary Reports.

23. Annual Sanitary Report from Marine Detachment, St. Lucia, Wendward Islands, for 1941.

24. Annual Sanitary Reports from Marine Barracks, Parris Island, South Carolina, for 1939, 1940, and 1941; and from Regimental Hospital, Fourth Marines, Shanghai, China, for 1939 and 1940.

fungus infections were spread at these places by the native women who washed the men's clothes.[25]

Venereal diseases were the cause for many admissions in China. In the face of such obstacles as the indifference of civilian authorities, a favorable rate of exchange, an abundance of cheap women of all nationalities, cheap liquor, and the inexperience of incoming drafts, the anti-venereal campaign made little headway.[26]

Fleet Marine Force

The largest basic unit of the Fleet Marine Force in 1939 and 1940 was the brigade; the largest basic unit in 1941 was the division. On the eve of the war there were two Marine divisions, maintained at about half of full strength, which had grown out of two Marine brigades. Between 1939 and 1941 seven Defense Battalions were organized as parts of the Fleet Marine Force.

At Guantanamo Bay in 1940, the medical department of the First Marine Brigade included a field hospital operated by the First Medical Battalion and medical sections and sick bays in each battalion and regiment manned by both medical officers and hospital

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25. Annual Sanitary Reports.

26. Annual Sanitary Reports from Regimental Hospital, Fourth Marines, Shanghai, for 1939 and 1940; Marine Detachment, Tientsin, China, for 1939 and 1940; Marine Detachment, for Peiping, China, for 1940.

corpsmen. The hospital wards, which had a total bed capacity of 50 beds, were quartered in hospital tents, which were equipped with wooden decks and cots. A field laboratory, offices, dressing stations, and storage rooms were set up in tents near the wards. The regimental and battalion sick bays were also housed in tents.[27]

The sick and injured of the First Marine Brigade (Provisional), stationed in Iceland in 1941, were cared for in a field hospital. No attempt was made to perform surgery or care for serious medical cases. Although the hospital had 72 cots, the usual facilities found in a stationary hospital were lacking. A field hospital of the type used by the First Brigade in Iceland was designed primarily to serve as a casualty clearing station where provisional treatment and preparations for evacuation to the rear could be made. The field hospital facilities at the Iceland base were totally inadequate to handle an epidemic or combat casualties. At least 100 additional beds and facilities for a small, independent, self-sustaining hospital were needed. The Marine Corps field ambulance was also unsuitable for use in the climate of Iceland.[28]

Each battalion and regiment of the First Marine Division, while at New River, North Carolina, in 1941, had its own

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27. Annual Sanitary Reports.

28. Annual Sanitary Report.

medical section with medical officers and corpsmen. Sick bays were housed in hospital tents that were lighted with electricity, heated by oil burners, and equipped with regulation field medical units. A field hospital, operated by the First Medical Battalion, was housed in three wooden buildings. In the two smaller buildings there were 14 beds for isolation cases and 12 beds for sick officers. In the largest building there were 30-bed medical and surgical wards, an operating room, two dental offices, a pharmacy, a laboratory, and an X-ray department. In the rear of the hospital area were six Army tents, each of which held 22 beds.[29]

The Second Marine Division, at San Diego in 1941, had one central camp dispensary which was operated by a medical company under the supervision of the division surgeon. It was designed for 13 beds, but double bunking enabled it to expand to 26 beds. In addition to the central dispensary, each regiment and battalion had aid stations where minor treatments and first aid were administered.[30]

Medical department personnel attached to the Fleet Marine Force also shared in activities of the base and post dispensaries while in garrison. Furthermore, the medical department offices of the FMF had to be maintained and operated by medical

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29. Annual Sanitary Report.

30. Annual Sanitary Report.

officers and members of the Hospital Corps.[31]

While the Defense Battalions were in training at Parris Island and San Diego, only ambulatory or mildly ill patients were taken care of by battalion dispensaries. Cases requiring hospitalization or treatment were transferred to the Parris Island Naval Hospitals, to the San Diego Naval Hospital, or to the dispensary of the San Diego Marine Corps Base. Usually there were no beds available at the battalion dispensaries. Sick call was held in large hospital tents or small rooms in the barracks.[32]

The Defense Battalions stationed or quartered at Pearl Harbor were housed in barracks at the Navy yard. All Defense Battalions at the Navy yard used the same dispensary, which was located in one of the barracks. Minor cases could be kept in the 10-bed ward, but patients requiring extended hospitalization were transferred to the Naval Hospital, Pearl Harbor.[33]

The dispensary that served Defense Battalions on Midway Islands occupied space in a building erected and used by the U. S.

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31. Annual Sanitary Reports.

32. Annual Sanitary Report.

33. Annual Sanitary Reports from First Defense Battalion for 1941; Third Defense Battalion for 1940 and 1941; Fourth Defense Battalion for 1941.

Engineers. At this dispensary, minor illnesses and injuries could be treated in the sick call room and a 4-bed ward. Major injuries and serious illnesses were cared for the contractor's 35-bed hospital, where there was an excellent operating room.[34]

In Samoa a field hospital in tents served the Seventh Defense Battalion for eight months in 1941. Tents were replaced when medical department personnel completed the construction of semi-permanent, screened, wooden and canvas structures. Seriously ill men or surgical cases from the Defense Battalion were sent to the station dispensary or the government hospital under the Public Health Department of Samoa.[35]

There were usually 3 medical officers, or 2 medical officers and 1 dental officer, and about 16 hospital corpsmen with the Defense Battalions. These complements were adequate in every year and every location.[36] The First Defense Battalion, however, in 1941 had a complement of 28 corpsmen; such a large number was required by the "splitting up of the battalion into three widely separated units."[37]

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34. Annual Sanitary Reports from Third Defense Battalion, Midway Detachment for 1940; Sixth Defense Battalion for 1941.

35. Annual Sanitary Report.

36. Annual Sanitary Reports.

37. Annual Sanitary Report.

At the Base Air Detachment, Bourne Field, Saint Thomas, Virgin Islands, the sick bay in 1939 was too small, poorly arranged, and located too near the flying field. A wing was added to the sick bay in 1939, and further additions in 1940 increased the bed capacity from 4 to 10 beds. In 1941 the dispensary became overcrowded, and it was necessary to take space in the barracks adjacent to the dispensary and to place the beds on porches.[38]

The medical department of Marine Aircraft Group Twenty-One, Second Aircraft Wing, was housed in tents and used field equipment supplies while stationed at Ewa, Oahu, T. H., in 1941. The personnel attached to this group included 1 medical officer, 1 dental officer, and 11 pharmacist's mates, 1 of whom was an aviation technician, 1 a dental technician, 7 medical field technicians, and 3 general detail corpsmen. The diseases in this group were similar to the most common diseases in the Navy and Marine Corps. Venereal disease was not a great problem, but there were some cases contracted in Honolulu and villages near the camp. Prophylactic treatments administered to men who returned from liberty were not always effective because of the time that elapsed between intercourse and return to the dispensary.

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38. Annual Sanitary Reports.

Medical Field Service Schools were conducted on each coast to train hospital corpsmen as field technicians. Courses in these schools consisted of from 100 to 150 hours of didactic and practical field work in the principles of medical organization, sanitation, and the care and treatment of personnel under actual field conditions. Medical officers of the Fleet Marine Forces considered these courses extremely important, and they were much opposed to transfers of field technicians to other kinds of duty. They urgently recommended that qualified field technicians be permitted to remain with the Marines during the emergency.

Many of the medical officers of the divisions were Reservists and had very little if any previous active duty. It was necessary to train them not only in Marine Corps organization and field duties but also to indoctrinate them in the general duties of medical officers. Indoctrination courses and courses in Medical Field Service were conducted for these Reserves.[39]

When stationed or garrisoned at posts and bases, brigades and divisions received supplies from the base and post dispensaries. At San Diego, the expeditionary field equipment used by the Second Brigade and the Second Division was under the control and custody of the base surgeon.[40] Most field medical units in use in 1939 and 1940

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39. Sanitary Report of the United States Fleet Marine Force for Calendar Year 1939, pp. 9-10; Annual Sanitary Reports from the Marine Corps Base, Second Brigade, for 1939.

40. Annual Sanitary Reports from the Second Brigade for 1939 and from the Second Division for 1941.

were old, obsolete, and difficult to pack and unpack.[41]

The rapid expansion of the brigades into divisions in 1940 and 1941 made it difficult to estimate the allowances of medical supplies needed for daily use and for replenishment of depleted field medical units. A division of this type with the component medical facilities had never been in the field before, and medical supply for it presented numerous difficulties.[42]

There was no uniformity in the supplies used by the Defense Battalions. Supplies were requisitioned directly from the Naval Supply Depot, Brooklyn, and some supplies were borrowed or transferred from post and base dispensaries and from naval hospitals. Those that reported using expeditionary field units in 1939 and 1940 were generally dissatisfied with them, and asked for their modification and improvement.[43]

The expeditionary and landing force outfits used in 1939 and 1940 had been designed more than 16 years before and had been proven obsolete and in need of modification by landing exercises

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41. Annual Sanitary Reports from First Marine Brigade for 1940; Second Marine Aircraft Unit for 1941; Marine Detachment, Johnston Island; First Defense Battalion for 1941.

42. BuMed, Supplemental Estimates, Fiscal Year 1941, Appropriation "Medical Department"--$2,000,000 (mimeographed folio in Finance Division, BuMed) Supplemental Estimates 1941, Title VI. Submitted 31 Dec. 1940, (folio in Finance Division, BuMed), p. 3.

43. Annual Sanitary Reports

in the late 1930's. The outfits were assembled in units that were too bulky for surf landings and advancing land forces; also, several items contained in the units were not suitable for field conditions. A plan for a complete revision of expeditionary and landing force units was begun in 1938, and in 1941 new and improved field medical units were delivered to the Fleet Marine Force. The new field supplies were of excellent quality and generally adequate in quantity.[44]

The health of the Fleet Marine Force was generally good during the pre-war emergency. Although frequently housed in tents or crude wooden structures and surrounded by unhealthy communities, there were no serious epidemics. Catarrhal fever caused the greatest number of admissions to the sick list.[45]

Effective control of venereal disease was a perplexing problem. The majority of cases of venereal disease originated on week-end liberty in highly infected cities following prolonged periods without liberty or proper recreation. The fact that many of the men over-indulged in alcoholic liquors while in these cities in all probability contributed a great deal to

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44. Navy Department Appropriation Bill for 1939. Hearings..p. 682; Navy Department Appropriation Bill for 1940. Hearings..p. 498; Annual Sanitary Reports for 1941.

45. Annual Sanitary Reports.

the exposure and infection rate. Quite often the time that elapsed between intercourse and the return to the camp or post dispensary was too great for prophylactic treatment to be effective. The best method of venereal disease control--the detection and elimination of the source of infection--could seldom be applied. Motion pictures and personal lectures by medical officers on the dangers of venereal diseases and the proper methods of prevention were presented throughout the Fleet Marine Force, but the effectiveness of these educational measures was seriously questioned by many medical officers. Many of the men were young, thoughtless, and inexperienced, and evinced little desire to cooperate with the venereal disease campaigns sponsored by the Medical Department.[46]

An exceptionally low rate in the Second Marine Division, Marine Corps Base, San Diego, was attributed to several factors: (1) establishment of a Division Venereal Control Officer, (2) establishment of a centrally located prophylaxis station in the city of San Diego by the District Medical Officer under the supervision of a District Venereal Control Officer, (3) repetition of education measures, and (4) sale of prophylaxis packages in the post exchange.[47]

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46. Annual Sanitary Reports.

47. Annual Sanitary Report from Second Marine Division for 1941.

In the field, the conditions for preparing and serving food were more favorable to food poisoning than at posts or bases. When the First Brigade landed in Cuba, the camp site had no mess halls or galleys and food had to be prepared and served in the open. Numerous cases of diarrhea occurred shortly after arrival at Guantanamo; about 75 percent of the command was affected to some extent. Later, when galleys and mess halls of wooden frame structure with concrete decks were constructed, both the fly problem and the diarrhea disorder ceased.[48] An outbreak of food poisoning in the Fifth Regiment in October 1940, was attributed to ham sandwiches which were carried in field haversacks in the hot sun for six hours.[49] An outbreak of food poisoning in the First Marine Aircraft Group was ascribed to drinking lemonade which presumably became contaminated as the result of a chemical reaction that occurred in the aluminum container. An outbreak of food poisoning in the First Division during fleet maneuvers in August 1941, was attributed to boiled ham which was prepared aboard ship.[50] In 1940, food poisoning at Parris Island involved 77 men of the

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48. Annual Sanitary Report from First Marine Brigade for 1940.

49. Annual Sanitary Report of the First Marine Brigade for 1940.

50. Annual Sanitary Report from First Marine Division for 1941.

the Fiftieth Defense Battalion and 111 of the Fourth Defense Battalion.[51]

Mosquitoes constituted a threat to the health of the First Brigade while encamped at Guantanamo Bay, Cuba. Head nets and gloves were worn by the camp guards, and nets were used on the cots. Under the supervision of a medical officer from the First Medical Battalion, mosquito larvae, including anopheles, were located in pools in the area of the camp. After oiling and drainage of the pools the number of mosquitoes declined, but the three cases of malaria developed within a few weeks after the arrival in Guantanamo. In December while the major portion of the brigade was on maneuvers, five cases developed among the 500 men left in the rear echelon. After sporadic cases of malaria also appeared at the Mobile Hospital and Naval Station, a joint program of malaria control was put into operation. The field work against the vector was under the direction of a medical officer from the brigade. Another brigade medical officer had charge of the laboratory work and findings among the native population. Laboratory and field technicians from the brigade used the facilities of the Mobile Hospital to do their testing. A considerable number of carriers were found and treated with quinine and plasmochin. The

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51. Annual Sanitary Reports from the Fourth and Fifth Defense Battalions for 1940.

brigade medical officer in charge of the vector phase mapped the breeding areas and continued the oiling and drainage of these areas.[52]

At New River, North Carolina, where the First Marine Division was encamped in 1941, experienced malariologists planned and supervised an attack on anopheline breeding areas. Because the camp and training areas were located in coastal flatlands and in a climate favorable to the mosquito, this project was a large one. Locally contracted malaria did not appear in the First Division in 1941.[53]

Malaria and dengue required special safeguards at St. Thomas. Buildings were screened and control of mosquito breeding was carried out. Regular inspections of all cisterns and reservoirs revealed no evidence of mosquito breeding; the flying field and vicinity were well drained and all standing water oiled or stocked with fish. Despite these precautions there were 23 cases of dengue fever and one case of malaria in 1941. In view of the preventive measures employed, the medical officer in charge concluded that all these cases originated outside the naval reservation.[54]

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52. Annual Sanitary Reports from the First Marine Brigade for 1940, Mobile Base Hospital for 1940 and 1941, and the naval stations for 1940 and 1941.

53. Annual Sanitary Report from the First Marine Division for 1941.

54. Annual Sanitary Reports from Base Air Detachment for 1939, 1940, and 1941.

CHAPTER V

SUPPLIES AND EQUIPMENT

The basic shore establishments engaged in the procurement and distribution of medical supplies and equipment were the medical supply depots at Brooklyn, Mare Island, and Canacoa, P. I. The storage space and personnel of these supply depots were increased to take care of the rapidly expanding stores of medical and dental supplies and equipment. To decentralize the system of supplies further, supply storehouses were established at centers of great naval activity. At the outbreak of the war there were medical storehouses at Pearl Harbor, Norfolk, and Newport, Rhode Island.[1]

The amount of medical supplies maintained in storage was governed not only by the annual regular needs of ships and stations, but also by the policy of building up a reserve sufficient to meet emergency requirements. The policy of the supply depots was to maintain a working stock in storage at the

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1. Navy Department Appropriation Bill for 1939. Hearings...pp. 676-677, 681-682; Navy Department Appropriation Bill for 1942. Hearings...p. 415; First Supplemental National Defense Appropriation Bill for 1942. Hearings. pp 335-336; Navy Department Appropriation Bill for 1943. Hearings..pp. 111, 114; U. S. Naval Medical Supply Depot, Brooklyn, New York, "A Resume of Ninety-Five Years of Service" (multigraphed issue of 25 Apr. 1945); C. B. Camerer, "The Medical Department of the Navy in the Philippines" (mimeographed).

depots, except for perishable goods, equal to the normal issues for one year. This policy enabled the supply depots to purchase supplies in economical lots, to fill special orders made by the subsidiary depots between annual dates of replenishment, and to make allowances for delays in shipments.[2]

In addition to the working stock and reserves of standard medical stores, medical supplies and equipment in special categories had to be procured and stored. Outfits for certain vessels "out of commission" had to be ready for issue on short notice; these outfits had to be kept in reserve because the time required to purchase, inspect, and assemble and place outfits on board the ships exceeded the time allowed for recommissioning. Outfits for expeditionary forces also had to be procured and stored for issue upon short notice. Another class of supplies that had to be kept in reserve was materials and medicines which could not be obtained in the United States or which might be difficult or impossible to obtain during a national emergency. Furthermore, cased and assembled units which were not commercially standard and which had to be designed and manufactured especially

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2. Navy Department Appropriation Bill for 1939. Hearings..pp 676-677; Navy Department Appropriation Bill for 1940. Hearings... p. 497; Navy Department Appropriation Bill for 1939. Hearings .. p..397; Title III-F. Y. 1942; Supplemental Estimates, Medical Department, Navy-$7,350,000, Care of the Dead, Navy-$27,000, Prepared for Congressional Committees, p. 18.

to meet Navy needs had to be maintained in storage because such items required considerable time to procure. These items were purchased in quantities, based on normal rates of use, to avoid excessive costs of small lot purchases. Included in this category were items such as aircraft first-aid packages, boat boxes, laboratory cabinets, picket cases, dressing cases, urinalysis cases, medicine boxes, surgical instrument rolls, Hospital Corps pouches, medical personnel kits, medical and surgical cases, and battle dressing cases.[3]

The procurement and preparation of outfits for new ships had to be accomplished before construction was completed. In order to have time to test materials at the supply depot, to ship outfits to the vessels, and to install certain kinds of equipment at the yards, outfits had to be procured about six months before ships for which they were intended were completed. Outfits for newly commissioned ships included equipment and a stock of supplies sufficient to last six months. Medicinal preparations, surgical dressings, and emergency units, such as battle dressing

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3. Navy Department Appropriation Bill for 1939. Hearings..pp. 679, 680; Navy Department Appropriation Bill for 1940. Hearings.. p. 498; Supplemental National Defense Appropriation Bill for 1941. Hearings..p. 141; BuMed Supplemental Estimates, Fiscal Year 1941, Appropriation "Medical Department"--$2,000,000; Title III F. Y. 1942; Supplemental Estimates, Medical Department, Navy-$7,350,000, Care of the Dead, Navy-$27,000, Prepared for Congressional Committees, 26 copies submitted 12 July 1941. Hearings 15 July 1941, p. 18,

stations and first-aid boxes, were provided. For each ship commissioned, too, naval policy called for storing supplies equal to the average annual issue for that ship at a naval medical supply depot. [4]

Medical field supply units, similar to medical outfits for ships and stations, were used when regularly established Medical Department facilities were not available. These outfits included medical equipment for Navy and Marine Corps field organizations and units, and all were assembled in special packed cases. Because these field medical units had to be ready for issue at any time, and because they were designed and manufactured to meet special specifications of the Navy and Marine Corps, these outfits also had to be procured and stored long before the time of issue. [5]

For a number of years, the Medical Department followed a policy of replacing a certain number of dental outfits each year. At the beginning of 1940, 289 dental outfits were in ser-

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4. Navy Department Appropriation Bill for 1939. Hearings...p. 674; Navy Department Appropriation Bill for 1940. Hearings.. p. 495; Navy Department Appropriation Bill for 1941. Hearings...p. 394. Navy Department Appropriation Bill for 1942..Hearings...p. 420; BuMed Supplemental Estimates, Fiscal Year 1941, Appropriation "Medical Department"--$2,000,000; Title III-F.Y. 1942, Supplemental Estimates, Medical Department, Navy-$7,350,000, Care of the Dead, Navy--$27,000, Prepared for Congressional Committees, p. 17.

5. Navy Department Appropriation Bill for 1939. Hearings..p. 680; Navy Department Appropriation Bill for 1940. Hearings..p. 497;

vice, of which 66 were at least ten years old.[6]

In October 1941, the Bureau announced its approval of a junior model dental operating unit for issue to the shore activities having dental officers. This junior model lacked certain accessories provided in the standard dental unit.[7]

The policy of BuMed did not permit experimental use of supplies and equipment at the regular Medical Department activities. However, once new drugs or new apparatuses were tested and their value demonstrated, the medical supply depots attempted to obtain them and furnish them to the Medical Department.[8] During the period of the pre-war emergency, the introduction of new drugs, serological agents, and therapeutic equipment and apparatuses was a significant accomplishment of the medical supply organization. Among the outstanding drugs and therapeutic agents introduced during the pre-war emergency were the sulfa drugs and blood plasma. With the beginning of general inoculations against tetanus and yellow fever in 1941, these biologicals became important supplies at the medical supply depots and stores.[9]

Supplemental Estimates 1941 Title VI, Submitted 31 Dec.1940, p. 3; Title III--F.Y. 1942; Supplemental Estimates, Medical Department, Navy--$7,350,000, Care of the Dead, Navy-- $27,000, Prepared for Congressional Committees, p. 28.

6. Navy Department Appropriation Bill for 1940. Hearings..p. 500; Navy Department Appropriation Bill for 1941. Hearings..p. 397.

7. Circular letters, 25 Oct. 1941.

8. Navy Department Appropriation Bill for 1939. Hearings. p. 670.

9. Navy Department Appropriation Bill for 1939. Hearings. p. 681; Circular letters, 13 Feb. 13 May, 6 Aug. 1941.

As need for more and more supplies developed, the difficulties in obtaining them increased. First of all, this was a period of rapidly rising prices, and the appropriated money when expended had less purchasing power than it had at the time the budgets were drawn up. Another difficulty was a growing scarcity of certain items. The European war cut off some of the materials which had been obtained abroad, and the difficulties in building up that category of supplies became more difficult.[10]

Despite rising prices and growing scarcities, the Medical Department as able to purchase most of the supplies and equipment needed. In 1941, the most notable shortage was in hospital beds, which were not being obtained in the desired quantities.[11]

There was a notable absence of any persistent or widespread criticism of the kinds of supplies made available by the supply depots, and there was undoubtedly a general satisfaction with the existing supply table.[12] The only serious criticism made of the quality of supplies and equipment was made of the medical field supply units, which were being revised and which were eventually issued to the Fleet Marine Force.

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10. Navy Department Appropriation Bill for 1939. Hearings..p. 670; Navy Department Appropriation Bill for 1941. Hearings..p. 381; Navy Department Appropriation Bill for 1942. Hearings..p. 406.

11. Navy Department Appropriation Bill for 1942. Hearings..p. 406.

12. The account of supplies which follows is based upon Annual Sanitary Reports.

The many complaints made in the annual sanitary reports were concerned with either the amount of supplies received or the delays in delivery. Both of these defects in the medical supply system were generally recognized as inevitable during a period of rapid expansion. In most cases the allowances would have been sufficient had they not expanded more rapidly than plans had indicated at the time when the allowances had been authorized. Most of the comments made upon supplies in the annual sanitary reports were in actuality no more than requests for increased allowances for the next year.

The extent of satisfaction with the kind, amount, and delivery of supplies was of course not uniform throughout the entire shore establishment. The various types of shore activities and individual activities of each type differed a great deal from one another in their reports upon medical supplies. Of all types of Medical Department activities, the naval hospitals probably encountered the greatest supply difficulties. Of the dispensaries, those at the naval air stations and at the other activities which were expanding at the most rapid rate seem to have had the greatest difficulties. From a geographical standpoint, the overseas dispensaries and hospitals quite naturally reported delays in the receipt of supplies much more frequently than did those within the continental limits.

The annual sanitary reports from the air stations gave

varying reports on the quantity of supplies and the speed of their delivery. Approximately half the reports expressed unqualified satisfaction with the allowances and the deliveries. Slow delivery of supplies was reported from Miami in 1940, and from Midway, San Juan, Banana River, Quonset Point, Norfolk, New York, and Anacostia in 1941. At San Juan in 1941, complete exhaustion of some items necessitated purchases in the open market. The Norfolk Air Station had to wait for five months in 1941 for urgently needed supplies. A destructive fire and increased personnel in 1941 caused the Sitka dispensary to outrun its supply estimate. Need for increasing the allowances because of increased personnel was reported by Coco Solo (1941), Trinidad (1941), Pearl Harbor (1939, 1940), Seattle (1940, 1941), Norfolk (1939, 1940, 1941), Anacostia (1940), Cape May (1941), Lakehurst (1941), and Dutch Harbor (1941). The Seattle and Anacostia stations reported in 1939 that the allowance of non-supply table articles was too small.

Supplies at the naval training stations seem to have been maintained in sufficient quantity, and delivery was generally satisfactory throughout the emergency. Apparently there were fewer difficulties with supplies at the training stations than at either the hospitals or the air stations. Every training station during the years 1939 and 1940 reported that supplies

were satisfactory; statements to the effect that allowances would have to be increased during the succeeding years were the only indications that the increased personnel at the stations threatened a reduction in the minimum reserves. In 1941, however, only the Great Lakes station reported complete satisfaction with supplies. Newport reported delays in receiving supplies and consequently a considerable decrease in the amount of supplies on hand. At Norfolk, where some items requisitioned had not been received, supplies were reported below "minimum quantity." San Diego reported considerable delays in receiving supplies that had been requisitioned.

The allowance of supplies for the section bases, except where the expansion of personnel was much greater than had been planned for, such as at Little Creek, was generally satisfactory. Several of the dispensaries had, by the close of the year, received none or only a part of the supplies requisitioned. The section base at Newport, Rhode Island, received only vaccines and serums. The section base at Southport, North Carolina, had merely first-aid materials that were obtained from the Charleston Naval Hospital and the subsection base at Georgetown, South Carolina. Supplies for the San Juan Section Base came from the air stations. The dental officer who reported at Eureka, California, in December 1941, borrowed a depleted field dental unit from the Army. About half of the section bases reported in 1941 that they had

received enough supplies for their needs.

The submarine bases found their supplies generally satisfactory during the pre-war emergency expansion. Allowances were not always sufficient to meet the expanding needs, but usually they were large enough. At Pearl Harbor and Coco Solo the time that elapsed between requisition and receipt was rather long because of the increased strain placed upon shipping. Pearl Harbor reported in 1941 that between two or three months were required to obtain supplies from the mainland. Supplies for the St. Thomas base were obtained from Bourne Field.

Difficulties in receiving the necessary supplies and equipment at the naval stations were not great. Most of the stations reported each year that the allowances authorized, the quantity delivered, and the manner and speed of delivery were satisfactory. In 1940, at Key West and at Guantanamo, where there was an increased number of patients from ships and the Fleet Marine Force, the allowances were reported as too small to meet the rapidly expanding needs of the stations, but both of these rapidly expanding stations reported in 1941 that their supplies and equipment were satisfactory.

The Balboa Naval Station and the Bermuda Operating Base had no allotments for medical supplies. The Balboa Station received supplies from the Fifteenth Naval District Medical Store-

room, while the Bermuda Base received them from the naval air station dispensary. At Samoa, in 1939, such equipment as electrocardiograph, basal metabolism apparatus, and an adequate medical library were needed because of the isolated position of the station.

Hospitals, air stations, training stations, section bases, submarine bases, naval stations, and operating bases, considered together, comprise a category of activities where supply difficulties were most frequently encountered. The remainder of the shore activities constitute another category which was marked by a notable absence of supply difficulties.

Types of activities where there were few supply difficulties included radio stations, depots, Navy yards, reserve aviation bases, research laboratories, armories, industrial plants, naval home, naval prison, receiving stations, schools, district staff headquarters, and the U. S. Naval Dispensaries at Washington, Long Beach and San Diego.

Most dispensaries at activities of this second category received their supplies directly from the supply depots, but a considerable number received them from neighboring activities of larger size or more permanent status.[13] Radio stations along

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13. Annual Sanitary Reports.

the northern Pacific Coast received their supplies from the medical departments of the Thirteenth Naval District Staff Headquarters or the Bremerton Navy Yard, while those in the Canal Zone received theirs from the Fifteenth Naval District Headquarters. The Radio Station at Wailupe, Oahu, T. H., received supplies from the dispensary at the Pearl Harbor Navy Yard. Several of the dispensaries at the industrial type establishments received supplies from Navy yards; the Net Depot at St. Thomas, V. I., obtained supplies from the dispensary at the Base Air Detachment. The Hospital Corps Schools received their supplies from the adjoining hospitals.

CHAPTER VI

EDUCATION, TRAINING, AND RESEARCH

The Medical Department operated several schools for the education and training of medical officers, dental officers, nurses, and members of the Hospital Corps. The Naval Medical School, a part of the National Naval Medical Center in Washington, D. C., was primarily an institution for giving postgraduate instruction in specialized fields of Navy medicine and indoctrination courses for new officers. The Naval Dental School, also at the National Naval Medical Center, performed similar services for the Dental Corps. Hospital Corps Schools at Norfolk, San Diego, and Brooklyn provided the basic training course for the enlisted men of the Navy Medical Department.[1]

The Naval Medical Center, composed of the Naval Medical

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1. C. W. O. Bunker, "The United States Naval Medical School, Bethesda, Md.," Naval Medical Bulletin, vol. 40, No. 2 (Apr. 1942) pp. 256-260; Navy Department Appropriation Bill for 1940. Hearings...pp. 106-107; First Supplemental National Defense Appropriation Bill for 1942. Hearings...pp. 342-343; Annual Report of the Chief BuMed to the Secretary of the Navy for the Fiscal Year 1939 Regarding the Medical Department of the Navy (typewritten copy in general files of Bureau of Medicine and Surgery), pp. 15-16; Annual Report of the Chief, Bureau of Medicine and Surgery to the Secretary of the Navy for the Fiscal Year 1940 Regarding the Medical Department of the Navy (typewritten copy in general files, Bureau of Medicine and Surgery), pp. 14-16; Annual Report to the Secretary of the Navy, by the Chief BuMed for the Fiscal Year 1941 (typewritten copy in general files, Bureau of Medicine and Surgery), pp. 18-19, 40-41, 43; Annual Report of the Surgeon General, United States Navy for 1 July 1941 to 1 July 1942 (typewritten copy in general files, Bureau of Medicine and Surgery, pp. 20-21, 28-29.

School, the Naval Dental School, and the Naval Hospital was located on the site of the U. S. Naval Hospital, Washington, D. C., although the construction of new buildings on a tract of land near the suburban town of Bethesda, Maryland, was nearing completion at the time of the Pearl Harbor attack. This medical center for the Navy had first been authorized by Congress in 1931 and established by an order of the Secretary of the Navy in 1935.[2] The general order of 1935 described the functions of the center as "medical, diagnostic, and educational."[3]

In November 1939, a Naval School of Aviation Medicine was established at the Naval Air Station, Pensacola.[4] This school offered three courses leading to the designation (1) naval flight surgeon, (2) aviation medical examiner, and (3) aviation technician. The course for naval flight surgeons lasted five and one-half months. Students of this course spent their first 60 days under flight instruction, their next 60 days attending lectures and conducting

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2. Charles M. Oman, "The National Naval Medical Center," U. S. Naval Medical Bulletin, vol. 40, No. 2 (Apr. 1942) pp. 253-256; General Order No. 70 (Series of 1935).

3. General Order No. 70 (Series of 1935).

4. R. T. McIntire, "Aviation Medicine in the Navy," Medical Annals of the District of Columbia, vol. 10 (Nov. 1941) pp. 437-440; Annual Sanitary Reports from the Pensacola Naval Air Station for 1940 and 1941; Annual Report to the Secretary of the Navy, by the Chief BuMed for the Fiscal Year 1941 [carbon copy in general files of BuMed, A9-1/EN1(063)], p. 33; Annual Report to the Secretary of the Navy by the Chief for the Fiscal Year 1941 (typewritten copy in general files, BuMed), p. 33; Annual Report of the Chief BuMed to the Secretary of the Navy for the Fiscal Year 1940 Regarding the Medical Department of the Navy (typewritten copy in general files, BuMed), pp. 18-19; Circular letter, 25 July 1940.

physical examinations under supervision, and their last six weeks on duty at outlying fields, the main dispensary, the aviation examining room, and the low pressure chamber. The course for aviation medical examiner was open to reserve medical officers. Students of this course spent 60 days attending lectures and acquiring practical experience in the aviation examining room. The purpose of the training of aviation technicians was to prepare selected hospital corpsmen to be qualified assistants to flight surgeons. For a period of three months, these men were given instruction in first aid, laboratory technique, aviation physical examinations, clerical duties peculiar to aviation medicine, and physiology of the heart, lungs, eyes, ear, nose and throat.

The School of Aviation Medicine was started "on very short notice" in the old station dispensary building, where there was little space and equipment.[5] But during its first month, the school moved into a new dispensary building where there were better instructional facilities. The air station at Pensacola was expanding so rapidly, however, that all available space was soon needed for routine work. Steps were taken to provide a separate building for all school activities, and on 1 October 1940, construction of a school building was begun. The first class in

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5. Annual Sanitary Report from the Naval Air Station for 1940.

the special school building was held on 15 February 1941. This new building was a modern, one-story building of Georgian style, "practically fireproof," and air-conditioned. It contained an office for the coordinator, a room for clerical work, a large room for physical examinations, a lecture room, two dark rooms, and a small soundproof room for audiometer tests.[6]

When the school started it lacked a good library of reference books, but by the close of 1941 a sufficient number of books, pamphlets, and reprints had been acquired to form a "fairly adequate reference collection."[7] Phorometers, wax models, and other instruments and supplies necessary for conducting flight examinations and for teaching were also obtained.

Contact, a quarterly news-letter, was published by the School of Aviation Medicine in the latter half of 1941. The purpose of this publication was to provide an exchange of information and ideas between the School of Aviation Medicine, naval flight surgeons, and aviation medical examiners.

Between November 1939, when the school was established, and 4 December 1941, when the tenth class graduated, a total of 153 Reserve medical officers became aviation medical examiners, and 54 regular medical officers became naval flight surgeons.[8]

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6. Annual Sanitary Report for 1941.

7. Annual Sanitary Report for 1941.

8. Annual Sanitary Report for 1941.

The education and training of Medical Department personnel was not confined to special schools. Medical officers attended special courses in the various civilian medical schools of the country.[9] Before the establishment of the School of Aviation at Pensacola, flight surgeons received their training from the Army Air Corps.[10] Technicians in the Hospital Corps were trained at the Naval Medical School, the naval hospitals, naval air stations, Marine Corps bases and posts, and several other shore activities.[11] In 1941, Hospital Corps technicians were trained in dentistry, aviation medicine, X-ray, laboratory, physical therapy, clerical procedures, medical field tactics, commissary, and eight other special fields. In addition to special courses for the training of technicians given at the various shore establishments, hospital corpsmen regularly received formal instruction from medical officers at hospitals and dispen-

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9. Navy Department Appropriation Bill for 1939. Hearings...p. 694; Navy Department Appropriation Bill for 1940. Hearings..pp. 106-107; Annual Report of the Chief of BuMed to the Secretary of the Navy for the Fiscal Year 1939 Regarding the Medical Department of the Navy, p. 15; Annual Report of the Chief of BuMed to the Secretary of the Navy for the Fiscal Year 1940 Regarding the Medical Department of the Navy (typewritten copy in general files, BuMed), p. 14; Annual Report of the Surgeon General, United States Navy, for 1 July 1941 to 1 July 1942 (typewritten copy in general files, BuMed), pp. 21-23.

10. Naval Medical Bulletin, April 1931, p. 323.

11. W. J. C. Agnew, "Training in Medical Department Specialties," Naval Medical Bulletin, April 1939, pp. 311-312; "Notes and Comments," Naval Medical Bulletin, Oct. 1939, p. 665; Annual Report of the Chief of BuMed to the Secretary of the Navy for the Fiscal Year 1939 Regarding the Medical Department of the Navy, p. 16; Annual Report of the Chief of BuMed to the

saries where they were on duty.

Until the Naval Medical Research Institute was established during the first year of the war, the Navy Medical Department had no single and separate unit devoted to research problems, and the only centralized direction for a number of scattered projects conducted by medical officers and scientists was BuMed in Washington. The principal centers for research in Navy medicine during the pre-war emergency were the Medical School of the National Naval Medical Center; the Navy Yard at Washington; the Air Station at Pensacola; and the Naval Research Laboratory Unit No. 1 at the University of California. Special studies and investigations were also conducted from time to time at the Navy yards, submarine bases, air stations, and aboard ships.[13]

In the years before the beginning of the war, more and more emphasis was placed upon the study of physiological and psychological reactions to unusual conditions encountered in

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Secretary of the Navy for the Fiscal Year 1940 Regarding the Medical Department of the Navy (typewritten copy in general files, BuMed), p. 15; Annual Report to the Secretary of the Navy, by the Chief of BuMed for the Fiscal Year 1941, (typewritten copy in general files, BuMed) pp. 13-15, 38-39; Circular letter 17 July 1939.

12. W. J. C. Agnew, "Training in Medical Department Specialties," Naval Medical Bulletin, Apr. 1939, pp. 311-312; Circular letters, 7 Nov. and 13 Nov. 1941.

13. Annual Sanitary Reports.

special branches of the naval service. The Medical Department cooperated with both the submarine service and the aviation branch in devising tests for the selection of personnel best adapted to these services, in discovering the physiological and psychological conditions resulting from high and low pressures and from variations in the supply of oxygen, in assisting in the preparation of mechanical and chemical devices that would enable personnel to withstand low and high altitudes, and in testing adaptation to darkness and reactions of the eyes to other conditions. Fatigue was another important physiological problem studied.[14]

The medical department of the Pensacola Air Station was engaged in several research projects related to aviation medicine. The studies made were concerned with the physical and psychological characteristics of successful naval aviators. It was hoped that information could be obtained which would be

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14. R. T. McIntire, "Aviation Medicine in the Navy," Medical Annals of the District of Columbia, vol. 10 (Nov. 1941) pp. 437-440; Navy Department Appropriation Bill for 1939. Hearings..p. 673; First Supplemental National Defense Appropriation Bill for 1942. Hearings...pp. 339-340; Annual Report of the Chief of BuMed to the Secretary of the Navy for the Fiscal Year 1939 Regarding the Medical Department of the Navy (typewritten copy in general files of BuMed), pp. 18-19; Annual Report of the Chief of BuMed to the Secretary of the Navy for the Fiscal Year 1940 Regarding the Medical Department of the Navy (typewritten copy in general files, BuMed), pp. 17-18; Annual Report to the Secretary of the Navy, by the Chief of BuMed for the Fiscal Year 1941, p. 34; Annual Report to the Secretary of the Navy, by the Chief of BuMed for the Fiscal Year 1941 (typewritten copy in general files, BuMed), p. 41; Annual Report of the Surgeon General, United States Navy for 1 July 1941 to 1 July 1942 (typewritten copy in general files, BuMed), p. 5.

of value in the formulation of tests and examinations for use in the selection of personnel.[15]

In 1939, the psychological division of the Medical Department recorded 159 personality studies based upon interviews.[16] In the same year, in October, this division began a survey of past psychological records in order to evaluate past personality studies. A recognized research worker in physiology made a study in 1939 of the organic efficiency of naval aviators. In 1940 and 1941, a battery of psychological and physiological tests was given under the auspices of the

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15. J. C. Adams, "Psychiatry in Aviation," Naval Medical Bulletin, vol. 38, No. 4 (Oct. 1941), pp. 514-515; R. T McIntire, "Aviation Medicine in the Navy," Medical Annals of the District of Columbia, vol. 10 (Nov. 1941) pp. 437-440; John R. Poppen, "Recent Trends in Aviation Medicine," Journal of Aviation Medicine, vol. 12, No. 1 (Mar. 1941) pp. 53-71; "Advances in Medicine and the Medical Sciences During the Year 1941," Naval Medical Bulletin, vol. 40, No. 2 (Apr. 1942), p. 445; First Supplemental National Defense Appropriation Bill for 1942. Hearings..pp. 202-203, 339-341; Navy Department Appropriation Bill for 1943. Hearings...p. 118; Annual Report of the Chief of BuMed to the Secretary of the Navy for the Fiscal Year 1939 Regarding the Medical Department of the Navy (typewritten copy in general files of BuMed), pp. 18-19; Annual Report of the Chief of BuMed to the Secretary of the Navy for the Fiscal Year 1940 Regarding the Medical Department of the Navy (typewritten copy in general files, BuMed), pp. 17-18; Annual Report to the Secretary of the Navy, by the Chief of BuMed for the Fiscal Year 1941 (typewritten copy in general files BuMed), p. 34; Annual Report of the Surgeon General, United States Navy for 1 July 1942 (typewritten copy in general files BuMed), p. 5.

16. R. T McIntire, "Aviation Medicine in the Navy", Medical Annals of the District of Columbia, vol. 10, pp. 437-440; John R. Poppen, "Recent Trends in Aviation Medicine," the Journal of Aviation Medicine, vol. 12, No. 1 (March 1941), pp. 53-71; First Supplemental National Defense Appropriation Bill for 1942.

Civil Aeronautics Authority to approximately 1,000 subjects with the hope that tests which correlated with flying ability might be discovered.[17] Another investigation under the auspicies of the Civil Aeronautics Authority resulted in the conclusion that routine flight examinations were sufficient to eliminate persons with significant aniseikonic symptoms.[18] Other studies were made at Pensacola of a "statistically applicable flight performance score," of various aspects of failures in flight instruction and primary land plane training, of the apparatus used for the eye-hand and two-hand coordination tests, and of instructors' comments as found in the flight jackets of the flight student.[19]

Although more and more emphasis was placed upon physiological and psychological reactions to unusual stresses

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Hearings...pp. 339-340; Annual Report of the Chief of BuMed to the Secretary of the Navy (typewritten copy in general files, BuMed), p. 19; Annual Report of the Surgeon General, United States Navy for 1 July 1941 to 1 July 1942 (typewritten copy in general files, BuMed BuMed), p. 5; Annual Report to the Secretary of the Navy, by the Chief of BuMed for the Fiscal Year 1941 (typewritten copy in general files, BuMed), p. 34.

17. Annual Sanitary Reports from Pensacola Air Station for 1939, 1940, and 1941.

18. Annual Sanitary Report from Pensacola Air Station for 1941.

19. Annual Sanitary Report from Pensacola Air Station for 1940 and 1941.

and strains, investigations in preventive medicine, diagnostics, and therapeutics were not neglected. Studies were made of the effectiveness of various types of inoculations developed outside the Navy, and research was carried on to discover new immunizing agents. On the eve of the war, experiments were being carried out at the Naval Research Laboratory Unit at Berkley in developing a vaccine for influenza.[20] The Naval Medical School investigated such problems as the circulation of the blood, cardiac output, blood substitutes, prevention and treatment of burns, tropical diseases, and recently improved or newly developed drugs, biologicals, apparatuses, materials, and methods.[21]

During the period between the beginning of the war in Europe and the attack on Pearl Harbor, the Navy Medical Department was able to profit from the rapid progress being made in chemotherapy, in immunization, and in the use of whole blood and plasma transfusions. The usefulness of atabrine in the treatment of malaria was established in the thirties.[22] Many uses of the

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20. First Supplemental National Defense Appropriation Bill for 1942. Hearings..pp. 201-202; Navy Department Appropriation Bill for 1943. Hearings..p. 119; Circular letter, 11 Dec. 1941.

21. Navy Department Appropriation Bill for 1939. Hearings..p. 673; Navy Department Appropriation Bill for 1943. Hearings..p. 118; First Supplemental National Defense Appropriation Bill for 1942. Hearings...pp. 202-203, 339-340.

22. Claude R. Bell, "The Treatment of Malaria with Atabrine Followed by Plasmochin," Naval Medical Bulletin, vol. 38, No. 3, (Oct. 1937), pp. 418-426; T. L. Morrow and W. G. Wieand, "Atabrine in the Treatment of Malaria," Naval Medical Bulletin, vol. 40, No. 2 (Oct. 1933), pp. 359-362.

sulfa drugs were demonstrated in civilian and military practice in both the United States and Europe between 1939 and 1941. The sulfa drugs were of especial significance to the Navy because of their effectiveness in the treatment of war wounds and gonorrhea.[23] The value of whole blood transfusions and blood substitutes in the treatment of traumatic shock, hemorrhage, and burns was shown both in the Spanish Civil War and the European war. Between March 1940 and December 1941, the Army and Navy jointly, with the cooperation of the Subcommittee on Blood Substitutes of the National Research Council, the American Red Cross, civilian hospitals, and commercial laboratories and pharmaceutical concerns, developed practical methods for collecting, processing, storing, and packaging blood plasma. By July 1941, the Naval Medical School was issuing units of citrated plasma to continental hospitals, and the Medical Supply Depot at Brooklyn was prepared to issue dried plasma to ships having medical officers, to the Fleet Marine Force, and to hospitals outside the continental limits.[24]

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23. "Advances in Medicine and the Medical Sciences During the Year 1941," Naval Medical Bulletin, vol. 38, No. 4 (Apr. 1942), pp. 445-446; Navy Department Appropriation Bill for 1943. Hearings...pp. 119-120; Circular letter, 8 Feb. 1941.

24. F. R. Hook, "Surgical Highlights of 1940", Naval Medical Bulletin, vol. 39, No. 1 (Jan. 1941), pp. 4-5; E. P. Kunkel, "Recent Advances in Blood Transfusion," Naval Medical Bulletin, vol. 37, No. 4 (Oct. 1939), pp. 578-587; L. R. Newhouser and D. B. Kendrick, "Blood Substitutes, Their Development and Use in the Armed Services," Naval Medical

To evaluate the efficiency of the Navy's Medical Department during the period of the pre-war emergency is extremely difficult. There is no satisfactory standard by which the effectiveness of the Department may be measured. Any comparison of the Navy Medical Department with the Army, the Public Health Service, the Veterans' Administration, or with privately owned institutions would necessarily involve such a multitude of factors, and allowances would have to be made for so many special conditions affecting each kind of medical service, that any conclusions would necessarily be of doubtful validity.

Comparison of various aspects of the Navy Medical Department with each other can be made with slightly more confidence. There is little doubt that the prevention of disease and injury, which Surgeon General McIntire considered a paramount objective of naval medical service, was remarkably successful. The year 1941 was the healthiest year in a

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Bulletin, vol. 40, No. 1 (Jan. 1942), pp. 1-13; L. R. Newhouser and Douglas B. Kendricks, "Human Plasma and Serum," Naval Medical Bulletin, vol. 39, No. 4 (Oct. 1941), pp. 506-512; First Supplemental National Defense Appropriation Bill for 1942. Hearings...pp. 199-202; Title III-F.Y. 1942; Supplemental Estimates, Medical Department, Navy-$7,350,000. Care of the Dead, Navy-$27,000, Prepared for Congressional Committees, 26 copies submitted 12 July 1941. Hearings 15 July 1941, p. 31; Annual Report to the Secretary of the Navy, by the Chief of BuMed for the Fiscal Year 1941 (typewritten copy in general files, BuMed), p. 37; Annual Report of the Surgeon General, United States Navy for 1 July 1941 to 1 July 1942 (typewritten copy in general files, BuMed), pp. 25-26; Circular Letter, 1 July 1941.

decade. The rate of admissions for all cuases in 1941 was lower than in 1940, and lower than the median for the preceding nine years.[25] In this period of rapid expansion when great numbers of unseasoned recruits were being brought in from civilian life; when many of the doctors were young and inexperienced and unfamiliar with the special problems of medical practice in the Navy; when the training period for members of the Hospital Corps had to be shortened each year; when there was a great turnover of all Medical Department personnel; when personnel at shore establishments in certain localities expanded at such a rapid rate that sufficient facilities, supplies, and personnel could not possibly be provided to meet the needs of the moment; when living quarters were crowded and often primitive; when men were scattered in unhealthy regions in both the Pacific and Atlantic; and when innumerable other difficulties were encountered by the Medical Department, the health of the Navy improved progressively.

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25. Navy Department Appropriation Bill for 1943. Hearings..p. 118.

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Naval Dispensary, Long Beach, Calif.	1939, 1940, 1941
Naval Dispensary, San Diego, Calif.	1940, 1941
Naval Research Lab., Anacostia, Wash., D. C.	1939, 1940, 1941
Hdqtrs., Third Naval District, New York, N. Y.	1939, 1940, 1941
Dist. Hdqtrs. and Dispensary, New Orleans, La.	1941
Hdqtrs., Twelfth Naval District, San Francisco, Calif.	1939, 1940, 1941
Thirteenth Naval District-Medical Officer, Seattle, Wash.	1939, 1940, 1941
Hdqtrs. Fifteenth Naval District, Neutrality Enforcement Force, Balboa, C. Z.	1940, 1941

Naval Radio Direction Finder Station, Cape Hatteras, Buxton, N. C.	1939
Naval Radio Direction Finder Station, Poyner's Hill, Poplar Branch, N. C.	1941
Naval Radio Station, Cape Mala, C. Z.	1939
Naval Radio Station, Summit, C. Z.	1939
Naval Radio Station, Balboa, C. Z.	1939, 1940, 1941
Naval Ratio Station, Bainbridge Island, Wash.	1941
Naval Radio Traffic Station, Dutch Harbor, Alaska	1939, 1940, 1941
Naval Radio Station, Oahu, T. H.	1940
Naval Prison, Portsmouth, N. H.	1939, 1940, 1941
Naval Home, Philadelphia, Pa.	1939, 1940, 1941
Naval Reserve Armory-Div. 2, Jacksonville, Fla.	1940
Naval Reserve Armory, Los Angeles, Calif.	1940, 1941
Naval Recruiting Station, Springfield, Mass.	1939, 1940, 1941
<u>Naval Hospitals</u>	
Portsmouth, N. H.	1939, 1940, 1941
Chelsea, Mass.	1939, 1940, 1941
Newport, R. I.	1939, 1940, 1941
Brooklyn, N. Y.	1939, 1940, 1941
Philadelphia, Pa.	1939, 1940, 1941
Annapolis, Md.	1939, 1940, 1941
Washington, D. C.	1939, 1940, 1941
Quantico, Va.	1941
Norfolk NavHosp at Portsmouth, Va.	1939, 1940, 1941
Parris Island, S. C.	1939, 1940, 1941

Naval Hospitals (Cont'd)	
Charleston, S. C.	1939, 1940, 1941
Pensacola, Fla.	1939, 1940, 1941
Corpus Christi, Texas	1941
Great Lakes, Ill.	1939, 1940, 1941
San Diego, Calif.	1939, 1940, 1941
Mare Island, Calif.	1939, 1940, 1941
Puget Sound NavHosp at Bremerton, Wash.	1939, 1940, 1941
Pear Harbor	1939, 1940, 1941
Guam	1939, 1940
Canacao, P. I.	1939, 1940
Mobile Base Hospital No. 1	1940, 1941
Naval Stations	
Guam	1939, 1940
New Orleans, La.	1941
Key West, Fla.	1939, 1940, 1941
Guantanamo Bay, Cuba	1939, 1940, 1941
Olongapo, P. I.	1939, 1940
Tutuila, Samoa	1939, 1940, 1941
San Clemete Island, Calif. (Fleet Training Base)	1939, 1940, 1941
Naval Operating Bases	
Balboa, C. Z.	1941
Norfolk, Va.	1939, 1941
Bermuda	1941
Public Health Department, American Samoa	1940

Section Bases

Portland, Me.	1941
Boston, Mass.	1941
Newport, R. I.	1941
New London, Conn. (Defense Force)	1941
Tompkinsville, Long Island, N. Y. (Defense Force)	1941
Little Creek, Va.	1941
Southport, N. C.	1941
Charleston, S. C. (Inshore Patrol)	1941
Jacksonville, Fla.	1941
Sabine Pass, Texas	1941
San Juan, P. R.	1941
Cristobal, C. Z. (Inshore Patrol)	1941
San Pedro, Calif.	1941
Eureka, Calif.	1941
Astoria, Oreg.	1941
Seattle, Wash.	1941
Port Townsend, Wash.	1941
Port Angeles, Wash.	1941
Bishop's Point, Oahu, T. H.	1941

Sub Bases

New London, Conn.	1939, 1940, 1941
Pearl Harbor, T. H.	1939, 1940
Coco Solo, C. Z.	1939, 1940, 1941
St. Thomas, V. I.	1941
Ordnance Island, Bermuda (Sub Repair Activity)	1941

Marine Corps

Force Medical Officer, FMF, San Diego, Calif.	1939,	1940	
First Marine Brigade, FMF, Guantanamo Bay, Cuba		1940	
MarCorps Base, Second Brigade, FMF, San Diego, Calif.	1939		
First Marine Grigade, FMF, (Provisional), Iceland			1941
First Marine Division, FMF, New River, N. C.			1941
Second Marine Division, FMF, San Diego, Calif.			1941
First Defense Battalion, FMF, MarCorps Base, San Diego, Calif.		1940	
Naval Air Station, Johnston Island (Concerns naval air personnel and Marine Detachment, First Defense Battalion, FMF, personnel)			1941
First Defense Battalion, FMF, Pear Harbor, T. H.			1941
Second Defense Battalion, FMF, San Diego, Calif.		1940	
Third Defense Battalion, FMF, Parris Island, S. C.	1939		
Third Defense Battalion, FMF, Pearl Harbor, T. H.		1940,	1941
Fourth Defense Battalion, FMF, Parris Island, S. C.		1940	
Third Defense Battalion, FMF, Midway Detachment, Midway Island		1940	
Fourth Defense Battalion, FMF, Pear Harbor, T. H.			1941
Fifth Defense Battalion, FMF, Parris Island, S. C.		1940	
Sixth Defense Battalion, FMF, Midway Island			1941
Seventh Defense Battalion, FMF, In the Field			1941
Base Air Detachment, FMF, St. Thomas, V. I.	1939,	1940,	1941
Second Marine Aircraft Wing, FMF, Ewa, Oahu, T. H.			1941
Marine Barracks, Washington, D. C.	1939,	1940,	1941
Marine Barracks, Quantico, Va.	1939,	1940,	1941

Marine Corps (Cont'd)

Marine Barracks, Parris Island, S. C.	1939, 1940, 1941
MarCorps Base, San Diego, Calif.	1939, 1940, 1941
Marine Barracks, New River, N. C.	1941
Amphibious Tractor Detachment, MarCorps, Dunedin, Fla.	1941
Marine Detachment, Peiping, China	1939, 1940
Marine Detachment, Tientsin, China	1939, 1940
Advance Detachment, Marine Defense Force, Dutch Harbor, Alaska	1940
Marine Barracks, Naval Air Station, Kodiak, Alaska	1940
Marine Barracks, Bermuda (NOB)	1941
Marine Detachment, Portland Bight, Jamaica, B.W.I.	1941
Marine Detachment, NavAir Station, Antigua, Leeward Islands, B.W.I.	1941
Marine Detachment, St. Lucia, Windward Islands	1941
Marine Detachment, Georgetown, British Guiana	1941
Marine Barracks, Roosevelt Roads, Vieques Island, P. R.	1941
MarCorps Eastern Recruiting Division, Springfield, Mass.	1940, 1941
MarCorps Depot of Supplies, Philadelphia, Pa.	1941
Fourth Marines, Regimental Hospital, Shanghai, China	1939, 1940, 1941

Navy Yards

Navy Yard Dispensary, Portsmouth, N. H.	1939, 1940, 1941
Boston, Mass.	1939, 1940, 1941
New York, N. Y.	1939, 1940, 1941
NavYard Dispensary, Philadelphia, Pa.	1939, 1940, 1941
Washington, D. C.	1939, 1940, 1941

Navy Yards (Cont'd)	
Norfolk, Va. (Portsmouth)	1939, 1940, 1941
Charleston, S. C.	1939, 1940, 1941
Mare Island, Calif.	1939, 1940, 1941
Puget Sound Navy Yard, Bremerton, Wash.	1939, 1940, 1941
Pearl Harbor, T. H.	1939, 1940, 1941
Cavite, P. I.	1939, 1940
Naval Ammunition Depots	
Hingham, Mass.	1940, 1941
Iona Island, N. Y.	1939, 1940, 1941
Fort Mifflin, Philadelphia, Pa.	1939, 1940, 1941
Dover, N. J.	1939, 1940, 1941
St. Juliens Creek, Portsmouth, Va.	1939, 1940, 1941
Hawthorne, Nevada	1939, 1940, 1941
Mare Island, Calif.	1939, 1940, 1941
Puget Sound, Wash.	1939, 1940, 1941
Balboa, C. Z.	1939, 1940, 1941
Oahu, Hawaii	1939, 1940, 1941
Naval Ordnance Plants, Etc.	
Baldwin, Long Island, N. Y.	1939, 1940, 1941
South Charleston, W. Va.	1939, 1940, 1941
Indian Head, Md. (Powder Factory)	1939, 1940, 1941
Naval Mine Depot, Yorktown, Va.	1939, 1941
Naval Net Depot, Tiburon, Calif.	1940, 1941
Naval Magazine and Net Depot, Indian Island, Wash.	1941
Fuel and Net Depot, Melville, R. I.	1941

Naval Ordnance Plants, Etc. (Cont'd)

Naval Net Depot, St. Thomas, V. I.	1941
Naval Clothing Depot, Brooklyn, N. Y.	1939, 1940, 1941
Naval Proving Ground, Dahlgren, Va.	1939, 1940, 1941
Torpedo Testing Range, Piney Point, Md.	1940
Torpedo Station, Newport, R. I.	1939, 1940, 1941
Torpedo Station, Alexandria, Va.	1941
Torpedo Station, Keyport, Wash.	1939, 1940, 1941

Naval Air Stations

Argentia, Newfoundland (NOB)	1941
Squantum, Mass.	1941
Quonset Point, R. I.	1940, 1941
New York, N. Y. (Floyd Bennett Field)	1941
Lakehurst, N. J.	1939, 1940, 1941
Cape May, N. J. (Mar. Detch., Rifle Range)	1939, 1940, 1941
Anacostia, Wash., D. C.	1939, 1940, 1941
Norfolk, Va. (NOB)	1939, 1940, 1941
Jacksonville, Fla.	1940, 1941
Banana River, Fla.	1940, 1941
Miami, Fla.	1940, 1941
Pensacola, Fla.	1939, 1940, 1941
Corpus Christi, Texas	1941
San Juan, P. R.	1939, 1940, 1941
Bermuda	1941
Guantanamo Bay, Cuba	1941

Naval Air Stations (Cont'd)

Trinidad, B. W. I.	1941
Coco Solo, C. Z.	1939, 1940, 1941
San Diego, Calif.	1939, 1940, 1941
San Diego, Calif. (Fleet Air Detch.)	1939, 1940
San Pedro, Calif.	1939, 1940, 1941
Alameda, Calif.	1940, 1941
Seattle, Wash.	1939, 1940, 1941
Tongue Point, Oreg. (Astoria)	1941
Sitka, Alaska	1939, 1940, 1941
Dutch Harbor, Alaska	1941
Kodiak, Alaska	1941
Pearl Harbor, T. H.	1939, 1940, 1941
Kaneohe Bay, T. H.	1941
Midway Island	1941
Palmyra Island	1941

Naval Reserve Aviation Bases

Squantum, Mass.	1940, 1941
Brooklyn, N. Y. (Floyd Bennett Field)	1940, 1941
Philadelphia, Pa.	1941
Anacostia, Wash., D. C.	1941
Atlanta, Ga.	1941
Opa-Locka, Fla. (Miami)	1939, 1940, 1941
New Orleans, La.	1941
Dallas, Texas	1941

Naval Reserve Aviation Bases (Cont'd)

Kansas City, Kan.	1941
Minneapolis, Minn.	1941
Oakland, Calif.	1941

Naval Training Schools

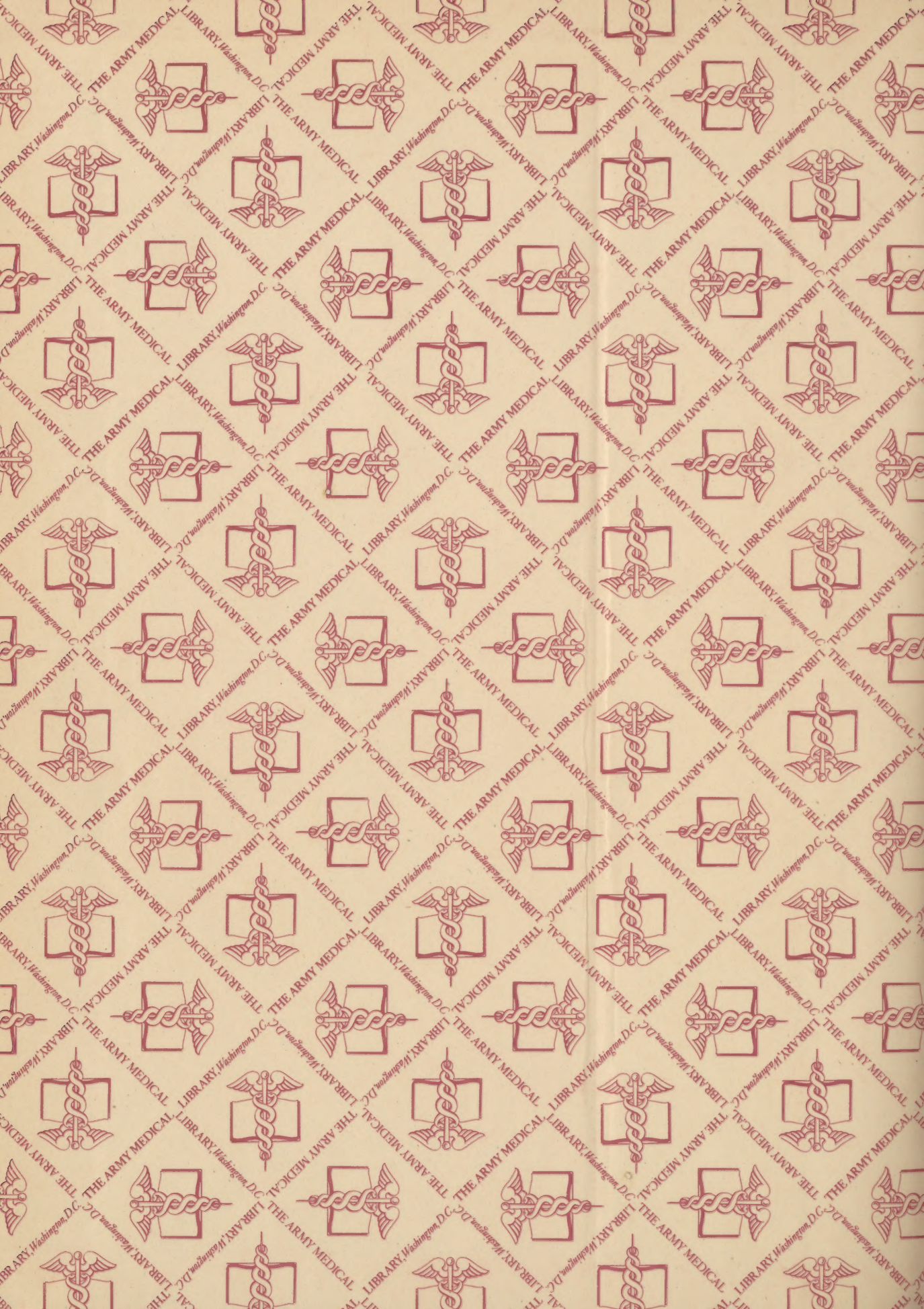
Portsmouth, Va. (HC School)	1939, 1940, 1941
San Diego, Calif. (HC School)	1939, 1940
Chicago, Ill. (Signal School)	1940, 1941
Chicago, Ill. (Navy Pier)	1941
St. Louis, Mo. (Electrical)	1941
Dearborn, Mich. (Service School, Ford Motor Co.)	1941
Detroit, Mich, (Aviation)	1941
Indianapolis, Ind. (Radio)	1941
Toledo, Ohio (Training School, Reserve Armory)	1941
Los Angeles, Calif. (Training School)	1941
Yorktown, Va. (Mine Warfare School)	1941
Noroton Heights, Conn. (TraSchool)	1941
Tiburon, Calif. (TraBase at Naval Net Depot)	1940
Brunswick, Me. (Radio Engineering)	1941
Chicago, Ill. (Midshipmen's School, Northwestern)	1940, 1941
Annapolis, Md. (Naval Academy)	1939, 1940, 1941

Naval Training Stations

Newport, R. I.	1939, 1940, 1941
Norfolk, Va.	1939, 1940, 1941
Great Lakes, Ill.	1939, 1940, 1941
San Diego, Calif.	1939, 1940, 1941

Receiving Stations

Boston, Mass.	1939, 1940, 1941
New York, N. Y. (Rec. Ship)	1939, 1940, 1941
South Brooklyn, N. Y.	1941
Philadelphia, Pa. (Navy Yard)	1939, 1940, 1941
Norfolk, Va.	1939, 1940
San Francisco, Calif. (Rec. Ship)	1939, 1940, 1941
San Diego, Calif. (USS RIGEL, Rec. Ship and Destroyer Base)	1939, 1940, 1941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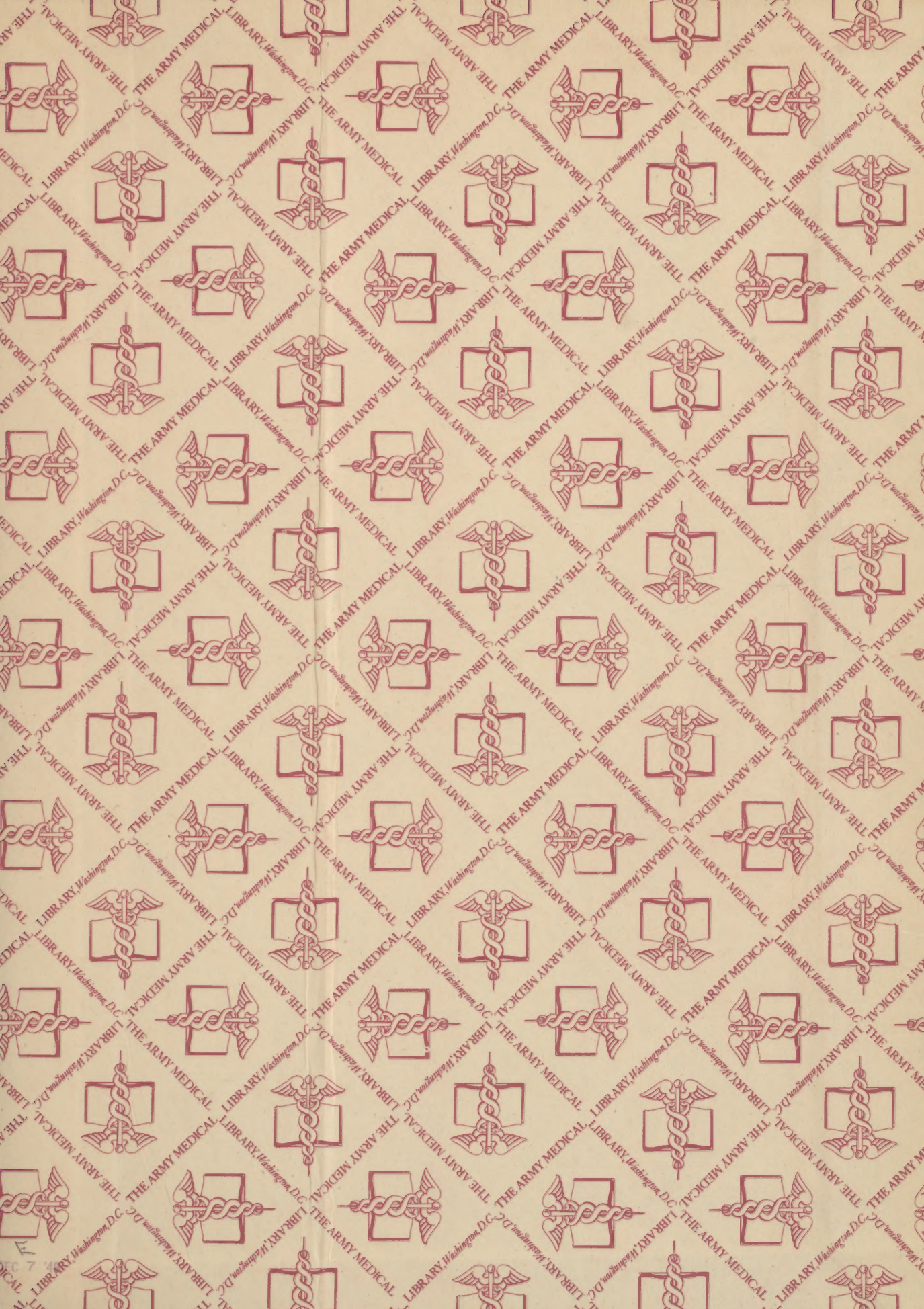
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